SUGAR BULLETIN No. 27.

DEPARTMENT OF AGRICULTURE,
BRITISH GUIANA.

FIELD EXPERIMENTS WITH SUGAR CANE, XXVII.

THE VARIETY AND FERTILIZER POSITION OF THE SUGAR INDUSTRY, XXIV.

REPORT ON THE SUGAR EXPERIMENT STATIONS FOR THE YEAR, 1958.

LEAF SCALD RATINGS OF SUGAR CANE VARIETIES IN BRITISH GUIANA.

THE "DAILY CHRONICLE," LTD., GEORGETOWN, DEMERARA,
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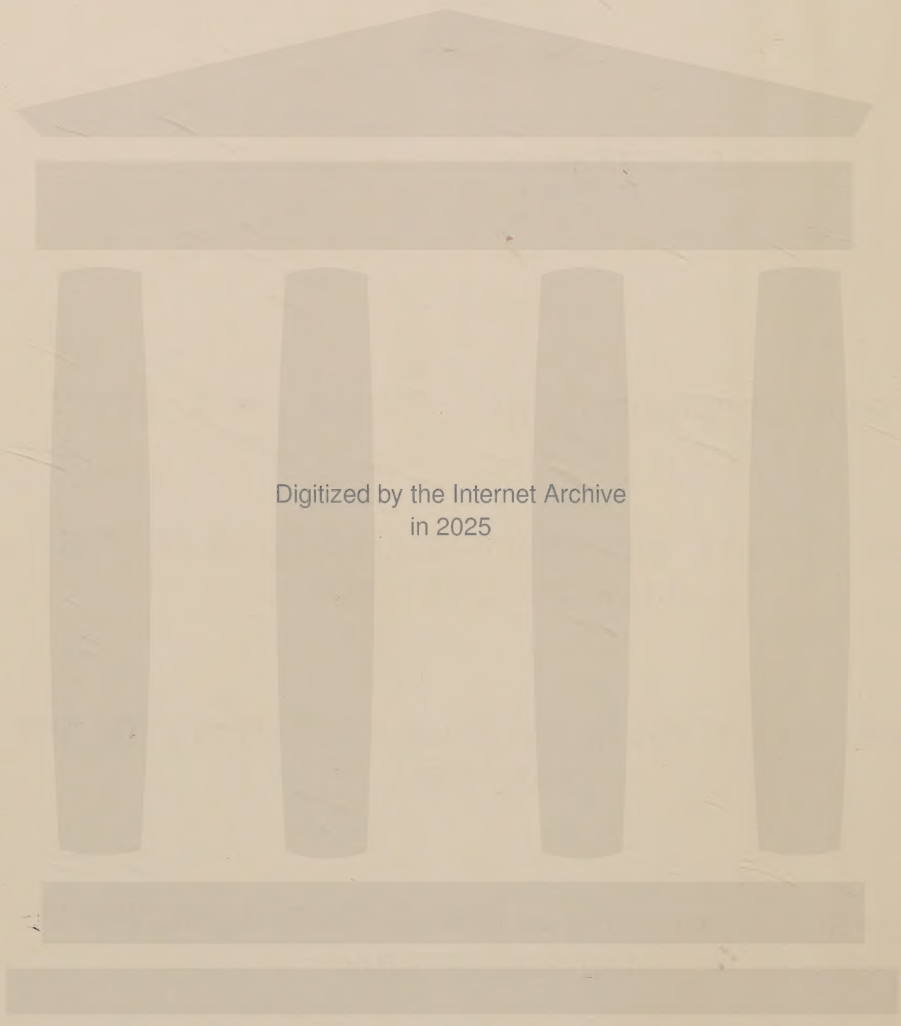

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FIELD EXPERIMENTS WITH SUGAR CANE, XXVII.

INTRODUCTION.

The field experiments reaped in 1958 consisted of seventy-eight (78) Cane Variety Experiments, three (3) experiments on the Growth and Ripening of four "type" cane varieties, seven (7) experiments involving fertilizers and soil amendments and one (1) experiment on cultivation methods.

RAINFALL.

The rainfall at the Sugar Experiment Station during 1958 was 72.95 inches which was 17.14 inches higher than that of the previous year but 29.51 inches below the average for the period 1921—1957. Reference to the Table below shews that except for April, June and October, the rainfall for the other nine months of 1958 was below that of the period averages. The deficit for the last six months of 1958 was in fact no less than 29.19 inches compared with the period mean. Somewhat more than half of the deficit occurring during the second half of the year arose from the failure of the November and December rains.

Comparison of the Monthly Rainfall at Sophia Experiment Station for 1958 with the average for 1921 – 1957.

Month.	Actual Rainfall 1958. Inches.	Average Rainfall 1921 – 1957. Inches.	Excess or Deficit. Inches.
January	2.16	10.53	— 8.37
February	4.26	4.97	— .71
March	3.92	4.94	— 1.02
April	19.20	6.82	12.38
May	5.83	12.73	— 6.90
June	17.15	14.65	2.50
July	3.46	11.86	— 8.40
August	6.38	7.97	— 1.59
September	1.07	3.43	— 2.36
October	4.75	3.85	.90
November	.79	6.42	— 5.63
December	3.98	14.29	—10.31
Total	72.95	102.46	—29.51

1. VARIETY TRIALS, 1958.

BY

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AND

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The results of the 1958 series of Variety Trials are presented and discussed under the following captions:—

A. Variety Sorting Trials.

B. Plant Cane Variety Trials.

C. First Ratoon Variety Trials.

D. Second Ratoon Variety Trials.

E. Variety Performance Summary.

F. General Summary and Recommendations.

A. VARIETY SORTING TRIALS.

Sixteen (16) Variety Sorting Trials were reaped in 1958 and are classified according to cycle, series, soil type and location as follows:—

SORTING TRIALS, 1958.

Cycle.	Series.	Soil Type.	Location.	Index Nos. of Trials.
Plants	B. 1952 Series	Pegassy Clay	Uitvlugt	196.
	B. 1953 Series	Pegassy Clay	Wales	197.
	B. 1953 Series	Clay Soil	Sophia	191, 192.
	D.B. 1954 Series	Clay Soil	Sophia	193, 194, 195.
First Ratoon ..	B. 1952 Series	Clay Soil	Sophia	156, 157.
	D.B. 1953 Series	Clay Soil	Sophia	158, 159, 160, 161.
Second Ratoon ..	B. 1951 Series	Clay Soil	Sophia	133.
	B. 1951 Series	Pegassy Clay	Uitvlugt	135.
	D.M. 1953 Series	Clay Soil	Sophia	132.

The results of the above sorting trials are presented in Table I.

TABLE I.—**Results of Plant Cane "Variety Sorting" Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre.		Trial No.
					Tons.	% Mean.	
	Sophia, Field 2 West "A". Reaped 5.3.58 at 12.75 months.						
	Rainfall :—57.97 inches.						
MEANS OF 4 PLOTS	***B. 41227**	**55.22**	**13.59**	**87.2**	**7.50**	**127.99**	191
	B. 53365	46.74	13.35	86.8	6.24	106.48	
	B. 53355	47.09	12.91	86.6	6.08	103.75	
	B. 53218	47.18	12.85	84.1	6.06	103.41	
	B. 53317	38.28	15.19	88.1	5.81	99.15	
	B. 53267	48.67	11.93	83.1	5.80	98.98	
	B. 53261	44.36	12.81	83.6	5.68	96.93	
	B. 53165	47.90	11.22	79.4	5.37	91.64	
	B. 52371	47.64	11.00	80.0	5.24	89.42	
	B. 53362	39.91	12.12	83.3	4.83	82.42	
	Mean :				5.86	100.00	
	Significant Difference, 20 : 1 :				.87	14.85	
	Sophia, Field 2 West "B". Reaped 6.3.58 at 13.00 months.						
	Rainfall :— 58.23 inches.						
MEANS OF 5 PLOTS	B. 53227	56.33	12.91	86.3	7.27	114.49	192
	***B. 41227**	**57.93**	**12.15**	**85.6**	**7.04**	**110.87**	
	B. 53200	56.45	11.89	81.6	6.71	105.67	
	B. 5398	54.53	12.06	83.3	6.58	103.62	
	B. 53348	50.18	12.85	83.8	6.45	101.57	
	B. 5321	53.05	12.04	84.3	6.39	100.63	
	B. 53329	55.81	10.81	82.4	6.03	94.96	
	B. 53122	52.34	11.29	82.1	5.91	93.07	
	B. 5352	48.69	11.73	83.7	5.71	89.92	
	B. 53320	52.05	10.42	78.7	5.42	85.35	
	Mean :				6.35	100.00	
	Significant Difference, 20 : 1 :				.78	12.24	

* **Standard Cane.**

TABLE I (Contd.)—**Results of Plant Cane "Variety Sorting" Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre.		Trial No.
					Tons.	% Mean.	
	Sophia, Field 12 East "A". Reaped 16.8.58 at 13.00 months.						
	Rainfall :—83.41 inches.						
MEANS OF 5 PLOTS :	D.B. 125/54	59.11	15.55	90.6	9.19	133.00	193
	D.B. 80/54	59.75	13.81	87.7	8.25	119.39	
	***B. 41227**	**54.64**	**14.76**	**92.4**	**8.06**	**116.64**	
	D.B. 77/54	61.46	12.70	85.1	7.81	113.02	
	D.B. 81/54	52.36	14.81	89.3	7.75	112.16	
	D.B. 7/54	57.02	13.21	86.6	7.53	108.97	
	D.B. 13/54	54.95	13.44	86.6	7.39	106.95	
	D.B. 6/54	62.66	11.79	87.1	7.39	106.95	
	D. 49/54	57.87	12.70	83.8	7.35	106.37	
	D.B. 88/54	55.51	12.81	87.5	7.11	102.89	
	D.B. 76/54	51.07	13.69	85.6	6.99	101.16	
	D.B. 65/54	52.10	13.19	85.4	6.87	99.42	
	D.B. 61/54	51.89	12.98	83.4	6.74	97.54	
	D.B. 83/54	48.42	13.64	86.2	6.60	95.51	
	D.B. 29/54	43.15	14.87	87.0	6.42	92.91	
	D.B. 23/54	49.47	12.93	87.5	6.40	92.62	
	D.B. 12/54	51.89	11.84	83.0	6.14	88.86	
	D.B. 94/54	49.30	12.35	82.5	6.09	88.13	
	D.B. 40/54	43.35	11.77	81.9	5.10	73.81	
	D.B. 32/54	42.98	11.55	81.7	4.96	71.78	
	D.B. 35/54	36.83	13.41	86.7	4.94	71.49	
	Mean :				6.91	100.00	
	Significant Difference, 20:1:				1.15	16.64	
	Sophia, Field 9 West "B". Reaped 19.8.58 at 12.75 months.						
	Rainfall:—80.83 inches.						
MEANS OF 5 PLOTS :	D.B. 9/54	62.74	14.31	89.3	8.98	125.77	194
	***B. 41227**	**58.84**	**14.05**	**88.4**	**8.27**	**115.83**	
	D. 50/54	61.46	12.91	86.1	7.93	111.06	
	D. 53/54	60.72	12.42	84.3	7.54	105.60	
	D. 47/54	53.52	13.45	88.3	7.20	100.84	
	D.B. 70/54	52.21	13.04	87.1	6.81	95.38	
	D.B. 21/54	51.72	13.09	85.3	6.77	94.82	
	D.B. 18/54	55.44	11.83	81.5	6.56	91.88	
	D.B. 71/54	53.40	12.18	83.0	6.50	91.04	
	D.B. 82/54	51.19	12.04	83.4	6.16	86.27	
	D.B. 75/54	49.57	11.78	83.1	5.84	81.79	
	Mean :				7.14	100.00	
	Significant Difference, 20:1:				1.06	14.85	

*** Standard Cane.**

TABLE I. (Contd.)—**Results of Plant Cane "Variety Sorting" Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Trial No.
Sophia, Field 9 West "A". Reaped 21.8.58 at 12.75 months. Rainfall:—80.83 inches.							
MEANS OF 5 PLOTS:	D.B. 131/54	68.10	13.28	89.3	9.04	122.49	195
	***B. 41227**	**62.05**	**13.48**	**86.4**	**8.36**	**113.28**	
	D.B. 197/54	67.16	12.17	83.4	8.17	110.70	
	D.B. 68/54	56.39	13.51	87.3	7.62	103.25	
	D.B. 2/54	58.53	12.40	84.8	7.26	98.37	
	D.B. 163/54	61.42	11.79	85.2	7.24	98.10	
	D.B. 1/54	65.84	10.80	81.6	7.11	96.34	
	D.B. 172/54	53.40	13.09	87.4	6.99	94.72	
	D. 51/54	64.38	10.57	79.4	6.80	92.14	
	D.B. 156/54	54.35	12.13	84.4	6.59	89.30	
	D.B. 154/54	51.88	11.63	83.9	6.03	81.71	
	Mean:				7.38	100.00	
	Significant Difference, 20 : 1 :				1.06	14.36	

* **Standard Cane.**

TABLE I (Contd.)—**Results of First Ratoon "Variety Sorting" Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre, Tons.	Trial No.
Sophia, Field 9 East "B". Reaped 27.3.58 at 11.75 months. Rainfall:—59.34 inches.									
MEANS OF 5 PLOTS:	B. 52158	47.89	14.88	85.9	7.12	127.37	B. 52158	13.07	156
	***B. 41227**	**41.85**	**16.49**	**88.6**	**6.90**	**123.43**	***B. 41227**	**12.15**	
	B. 52144	44.65	15.30	88.4	6.83	122.18	B. 52316	12.14	
	B. 5213	45.59	14.79	86.9	6.74	120.57	B. 52144	12.00	
	B. 52316	42.47	15.53	87.0	6.60	118.07	B. 5213	11.93	
	B. 5235	43.78	13.70	86.2	6.00	107.33	B. 5235	11.72	
	B. 5277	42.45	13.83	85.3	5.87	105.01	B. 5277	11.05	
	B. 5212	33.98	15.47	86.7	5.25	93.92	H. 39–3633	10.29	
	B. 52135	37.76	13.56	84.8	5.12	91.59	B. 52135	9.95	
	B. 52389	34.90	14.20	83.3	4.95	88.55	B. 52341	9.80	
	B. 52341	35.36	14.00	82.8	4.95	88.55	B. 52389	9.57	
	H. 39–3633	39.42	12.53	83.8	4.94	88.37	B. 5212	9.31	
	B. 52256	35.13	13.02	81.8	4.57	81.75	B. 52256	9.14	
	B. 52306	28.69	14.33	83.1	4.11	73.52	B. 52214	8.66	
	B. 52214	28.36	13.71	83.4	3.89	69.59	B. 52306	7.81	
	Mean:				5.59	100.00			
	Significant Difference, 20 : 1:				.89	15.92			
Sophia, Field 9 East "C". Reaped 1. 4. 58 at 11.25 months. Rainfall :—59.29 inches.									
MEANS OF 4 PLOTS:	B. 52107	40.25	16.16	90.5	6.50	143.49	***B. 41227**	**13.64**	157
	B. 52253	39.20	16.41	90.7	6.43	141.94	B. 52253	13.26	
	***B. 41227**	**38.87**	**16.22**	**90.5**	**6.31**	**139.29**	B. 52107	12.74	
	B. 5121	38.26	14.97	89.1	5.73	126.49	H. 38–2915	12.28	
	B. 52257	35.11	15.95	89.9	5.60	123.62	H. 44–3098	12.02	
	B. 52222	35.34	15.53	88.2	5.49	121.19	B. 52257	12.00	
	B. 52321	33.17	16.30	89.5	5.40	119.21	B. 51311	11.71	
	B. 51311	37.04	14.45	87.5	5.35	118.10	B. 5121	11.65	
	H. 38-2915	34.02	15.31	89.3	5.21	115.01	B. 52222	11.60	
	H. 39–7028	37.50	13.66	88.6	5.12	113.02	B. 52321	11.27	
	B. 5124	30.00	16.18	87.9	4.85	107.06	H. 39–7028	11.17	
	H. 44–3098	35.06	13.70	88.1	4.80	105.96	B. 52315	10.90	
	B. 52162	33.05	14.33	88.6	4.74	104.64	B. 5124	10.68	
	B. 52315	29.64	15.00	86.7	4.45	98.23	B. 52162	10.68	
	B. 51105	29.19	14.90	88.1	4.35	96.03	B. 51105	9.61	
	B. 52184	23.04	16.73	91.0	3.85	84.99	H. 38–4443	8.75	
	B. 52298	26.28	14.45	86.0	3.80	83.89	B. 52184	8.74	
	H. 38–4443	32.15	11.65	82.4	3.75	82.78	H. 37–1933	8.65	
	B. 52242	26.45	13.76	81.5	3.64	80.35	H. 39-5803	8.60	
	H. 37–1933	26.99	13.07	83.8	3.52	77.70	B. 52242	8.37	
	P.R. 1000	26.25	13.10	84.7	3.44	75.94	B. 52298	8.29	
	H. 39–5803	23.38	13.41	86.1	3.13	69.09	P.R. 1000	8.18	
	F. 36–819	19.96	13.70	85.8	2.73	60.26	C.P. 44-155	6.94	
	C.P. 44-155	21.80	12.00	83.1	2.61	57.62	C.P. 34–79	6.68	
	C.P. 34–79	23.00	10.61	73.3	2.44	53.86	F. 36–819	6.46	
	Mean:				4.53	100.00			
	Significant Difference, 20 : 1:				1.27	28.04			

* **Standard Cane.**

TABLE I (Contd.)—Results of First Ratoon "Variety Sorting" Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre, Tons.	Trial No.
Sohphia, Field 4 West "B". Reaped 10.9.58 at 12.00 months. Rainfall :—80.15 inches.									
	D.B. 85/53	57.90	11.63	80.7	6.73	131.45	*B. 41227	14.35	
	N.Co. 330	44.82	14.68	87.6	6.58	128.52	D.B. 255/53	14.25	
	D.B. 255/53	43.99	14.39	88.0	6.33	123.63	N.Co. 330	13.88	
	***B. 41227**	**41.45**	**14.80**	**89.3**	**6.13**	**119.73**	B. 52178	12.96	
	B. 52178	41.06	13.29	86.3	5.46	106.64	H. 39-5803	12.44	
	H. 39-5803	34.91	15.43	89.5	5.39	105.27	D.B. 85/53	12.37	
	C.C. 102	40.99	13.06	86.4	5.35	104.49	D.B. 54/53	11.60	
MEANS OF 5 PLOTS:	D.B. 80/53	40.05	13.29	86.5	5.32	103.91	C.C. 102	11.47	158
	D.B. 54/53	36.70	13.90	89.5	5.10	99.61	D.B. 80/53	11.06	
	D.B. 71/53	36.02	13.45	85.4	4.84	94.53	D.B. 72/53	11.05	
	D.B. 62/53	33.90	13.66	85.8	4.63	90.43	D.B. 71/53	10.93	
	D.B. 72/53	33.09	13.66	85.8	4.52	88.28	D.B. 36/53	10.68	
	D.B. 12/53	35.02	12.11	81.6	4.24	82.81	D.B. 62/53	10.30	
	H. 38–4443	37.79	11.17	80.4	4.22	82.42	D.B. 12/53	9.70	
	D.B. 36/53	33.42	12.48	83.7	4.17	81.83	H. 38–4443	9.14	
	G. 176	20.62	14.03	85.1	2.89	56.45	G. 176	7.88	
	Mean:				5.12	100.00			
	Significant Difference, 20: 1:				.74	14.45			
Sophia, Field 4 West "A". Reaped 12.9.58 at 11.75 months. Rainfall :—78.84 inches.									
	D.B. 85/53	55.67	15.22	89.4	8.47	141.17	D.B. 85/53	16.25	
	D.B. 164/53	52.07	14.19	86.8	7.39	123.17	***B. 41227**	**15.00**	
	D.B. 73/53	48.83	15.02	87.6	7.33	122.17	D.B. 205/53	13.82	
	***B. 41227**	**47.45**	**14.99**	**90.2**	**7.11**	**118.50**	D.B. 164/53	13.59	
	D.B. 205/53	48.86	13.98	86.1	6.83	113.83	D.B. 169/53	13.46	
	D.B. 137/53	46.27	13.88	86.2	6.42	107.00	D.B. 74/53	13.13	
	D.B. 81/53	43.39	14.32	88.2	6.21	103.50	D.B. 73/53	12.91	
	D.B. 223/53	45.42	13.57	85.5	6.16	102.67	D.B. 167/53	12.64	
	D.B. 169/53	41.02	14.90	89.9	6.11	101.83	D.B. 223/53	12.58	
MEANS OF 4 PLOTS:	D.B. 74/53	37.59	15.71	89.8	5.91	98.50	D.B. 81/53	12.46	159
	D.B. 143/53	48.14	12.24	80.8	5.89	98.17	D.B. 79/53	12.37	
	D.B. 167/53	42.82	13.73	85.6	5.88	98.00	D.B. 137/53	12.02	
	D.B. 80/53	40.75	14.04	85.2	5.72	95.33	D.B. 78/53	11.44	
	D.B. 79/53	40.12	14.20	87.9	5.70	95.00	D.B. 143/53	11.26	
	D.B. 78/53	39.31	13.89	86.8	5.46	91.00	D.B. 80/53	10.98	
	D.B. 75/53	39.15	13.68	88.2	5.36	89.33	D.B. 76/53	10.66	
	D.B. 76/53	34.31	15.44	88.9	5.30	88.33	D.B. 75/53	10.54	
	D.B. 77/53	34.02	15.54	89.1	5.29	88.17	D.B. 77/53	10.52	
	D.B. 231/53	41.28	11.74	82.9	4.85	80.83	D.B. 231/53	10.38	
	D.B. 233/53	25.77	11.20	83.2	2.89	48.17	D.B. 233/53	8.02	
	Mean :				6.00	100.00			
	Significant Difference, 20: 1:				.76	12.67			

* Standard Cane.

TABLE I. (Contd.)—**Results of First Ratoon "Variety Sorting" Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre, Tons.	Trial No.
Sophia, Field 3 East "C". Reaped 15.10.58 at 11.75 months. Rainfall:—79.13 inches.									
MEANS OF 5 PLOTS :	***B. 41227**	**51.71**	**12.95**	**83.2**	**6.70**	**127.62**	***B. 41227**	**13.96**	160
	D.B. 172/53	47.68	13.36	84.7	6.37	121.33	D.B. 172/53	12.23	
	D.B. 87/53	49.42	11.89	83.5	5.88	112.00	D.B. 169/53	11.76	
	D.B. 45/53	44.29	12.67	84.2	5.61	106.86	D.B. 167/53	10.96	
	D.B. 169/53	38.85	13.56	87.4	5.27	100.38	D.B. 231/53	10.38	
	D.B. 233/53	45.96	11.32	81.0	5.20	99.05	D.B. 87/53	10.26	
	D.B. 167/53	37.49	13.73	84.7	5.15	98.10	D.B. 45/53	9.61	
	D.B. 60/53	45.78	10.96	77.9	5.02	95.62	D.B. 233/53	9.54	
	D.B. 47/53	41.09	12.14	82.4	4.99	95.05	D.B. 47/53	9.03	
	D.B. 231/53	45.95	10.73	80.1	4.93	93.90	D.B. 34/53	8.90	
	D.B. 34/53	35.31	12.06	79.9	4.26	81.14	D.B. 60/53	8.79	
	D.B. 133/53	37.74	9.61	77.5	3.63	69.14	D.B. 133/53	6.98	
	Mean:				5.25	100.00			
	Significant Difference, 20: 1:				.65	12.38			
Sophia, Field 3 East "D". Reaped 22.10.58 at 11.75 months. Rainfall:—78.76 inches.									
MEANS OF 5 PLOTS:	***B. 41227**	**50.62**	**16.25**	**88.7**	**8.23**	**124.13**	***B. 41227**	**14.11**	161
	D.B. 74/53	47.02	15.53	88.6	7.30	110.11	D.B. 169/53	13.63	
	D.B. 233/53	54.60	12.63	83.7	6.90	104.07	B. 46364	12.56	
	B. 46364	56.10	12.28	83.5	6.89	103.92	D.B. 233/53	12.18	
	D.B. 73/53	49.02	13.98	85.2	6.85	103.32	D.B. 164/53	11.17	
	D.B. 62/53	44.43	15.21	86.3	6.76	101.96	D.B. 74/53	10.98	
	D.B. 164/53	51.95	12.76	84.6	6.63	100.00	D.B. 85/53	10.89	
	D.B. 169/53	45.57	14.32	89.2	6.53	98.49	D.B. 62/53	10.74	
	D.B. 85/53	66.09	9.59	77.9	6.34	95.63	D.B. 73/53	10.67	
	D.B. 54/53	47.05	12.50	84.0	5.88	88.69	D.B. 54/53	10.25	
	D.B. 167/53	43.51	13.05	82.4	5.68	85.67	D.B. 167/53	10.17	
	D.B. 80/53	43.79	12.81	83.0	5.61	84.62	D.B. 80/53	9.57	
	Mean:				6.63	100.00			
	Significant Difference, 20: 1:				.63	9.50			

*** Standard Cane.**

TABLE I.(Contd.)—Results of Second Ratoon "Variety Sorting" Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Combined Results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined Results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
	Sophia, Field 13 West "B". Reaped 18.3.58 at 11.75 months. Rainfall :—58.58 inches.								
MEANS OF 4 PLOTS:	***B. 41227**	**34.00**	**14.31**	**89.8**	**4.86**	**129.95**	***B. 41227**	**17.57**	132
	D.M. 18/53	33.85	13.95	89.1	4.72	126.20	D.M. 1/53	15.49	
	D.M. 1/53	37.39	11.89	84.3	4.45	118.98	D.M. 4/53	14.43	
	D.M. 21/53	36.46	12.11	85.9	4.41	117.91	D.M. 22/53	14.42	
	D.M. 15/53	36.41	12.03	85.4	4.38	117.11	D.M. 6/53	14.40	
	D.M. 22/53	37.55	11.33	82.7	4.28	114.44	D.M. 18/53	14.11	
	D.M. 4/53	35.62	11.75	84.4	4.18	111.76	D.M. 42/53	13.74	
	D.M. 42/53	33.33	12.54	86.2	4.18	111.76	D.M. 21/53	13.53	
	D.M. 27/53	27.63	13.88	88.6	3.84	102.67	D.M. 15/53	13.38	
	D.M. 6/53	29.23	12.69	88.0	3.71	99.20	D.M. 27/53	13.30	
	D.M. 8/53	29.76	12.19	85.4	3.63	97.06	D.M. 8/53	12.72	
	D.M. 33/53	29.87	11.90	86.3	3.55	94.92	D.M. 51/53	12.62	
	D.M. 49/53	28.73	11.72	87.0	3.36	89.84	D.M. 25/53	12.26	
	D.M. 41/53	29.08	11.51	84.6	3.35	89.57	D.M. 16/53	11.70	
	D.M. 16/53	24.48	13.23	89.0	3.24	86.63	D.M. 49/53	11.24	
	D.M. 25/53	27.84	11.39	84.3	3.17	84.76	D.M. 33/53	11.23	
	D.M. 7/53	33.59	9.32	78.5	3.13	83.69	D.M. 41/53	11.03	
	D.M. 38/53	28.58	10.68	81.1	3.05	81.55	D.M. 38/53	10.72	
	D.M. 51/53	23.05	12.08	84.5	2.78	74.33	D.M. 46/53	10.06	
	D.M. 46/53	21.99	11.15	82.0	2.45	65.51	D.M. 7/53	9.64	
	Mean:				3.74	100.00			
	Significant Difference, 20: 1:				.85	22.73			
	Sophia, Field 13 West "A". Reaped 20.3.58 at 11.75 months. Rainfall :—58.58 inches.								
MEANS OF 4 PLOTS:	B. 51116	39.67	15.41	89.2	6.11	124.95	B. 5121	21.79	133
	B. 5121	44.28	13.63	87.3	6.04	123.52	***B. 41227**	**20.88**	
	***B. 41227**	**39.89**	**14.91**	**89.5**	**5.95**	**121.68**	B. 51116	20.57	
	B. 51183	44.39	13.39	86.9	5.94	121.47	B. 51353	19.87	
	B. 51353	43.02	13.40	86.5	5.77	118.00	B. 5124	19.40	
	B. 51355	41.45	13.91	87.0	5.76	117.79	B. 51355	19.38	
	B. 51211	39.41	14.06	89.7	5.54	113.29	B. 51183	19.18	
	B. 51134	39.36	13.49	87.3	5.31	108.59	B. 51131	18.93	
	B. 51311	38.82	12.95	87.3	5.03	102.86	B. 51134	18.46	
	B. 5124	33.31	14.58	89.5	4.85	99.18	B. 51211	18.25	
	B. 51129	34.31	14.02	89.7	4.81	98.36	B. 51129	18.21	
	B. 51131	36.75	12.30	86.1	4.52	92.43	B. 51311	16.86	
	B. 51190	30.91	14.63	89.1	4.52	92.43	B. 51167	16.23	
	B. 51167	30.45	14.27	88.0	4.35	88.96	B. 51192	15.57	
	B. 51192	31.24	13.81	88.3	4.31	88.14	B. 51259	15.25	
	B. 51321	29.92	14.38	88.3	4.30	87.93	B. 51190	15.16	
	B. 51105	29.61	13.58	86.5	4.02	82.21	B. 51105	15.00	
	B. 5143	30.82	12.78	84.5	3.94	80.57	B. 5143	14.66	
	B. 51259	31.76	11.83	81.4	3.76	76.89	B. 51321	14.55	
	B. 51156	23.12	13.07	86.2	3.02	61.76	B. 51156	12.67	
	Mean :				4.89	100.00			
	Significant Difference, 20 : 1 :				.96	19.63			

*** Standard Cane.**

TABLE I (Contd.) —**Results of Plant Cane "Variety Sorting" Trials on Pegassy Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Trial No.
Pln. Uitvlugt, Field 39 I.C.B.U. East. Reaped 12.3.58 at 13.75 months. Rainfall:—76.92 inches.							
MEANS OF 4 PLOTS:	B. 52315	47.94	13.51	83.2	6.48	152.11	196
	***B. 41227**	**41.84**	**15.00**	**88.4**	**6.28**	**147.42**	
	B. 52321	41.40	14.83	86.4	6.14	144.13	
	D. 141/46	40.91	13.42	84.2	5.49	128.87	
	B. 52389	41.77	12.43	83.7	5.19	121.83	
	B. 52107	35.55	14.42	87.5	5.12	120.19	
	B. 5121	38.39	12.39	83.3	4.75	111.50	
	B. 52371	34.82	13.52	81.0	4.71	110.56	
	B. 5277	35.71	13.08	83.9	4.67	109.62	
	B. 5213	34.49	13.18	85.7	4.54	106.57	
	B. 5212	31.13	14.44	88.0	4.49	105.40	
	B. 52144	31.43	13.09	84.7	4.12	96.71	
	B. 5235	30.54	13.01	86.7	3.99	93.66	
	Co. 413	34.52	10.94	78.4	3.78	88.73	
	B. 52222	31.46	11.95	81.3	3.76	88.26	
	B. 52214	30.21	12.01	81.2	3.63	85.21	
	B. 52257	25.66	13.86	87.1	3.56	83.57	
	H. 39–3633	27.35	12.87	84.7	3.52	82.63	
	B. 52253	23.59	14.81	84.9	3.50	82.16	
	B. 52162	27.06	11.76	80.3	3.18	74.65	
	B. 52184	21.27	14.55	87.9	3.09	72.54	
	B. 52158	21.66	13.55	84.4	2.93	68.78	
	B. 52135	27.48	9.82	75.2	2.70	63.38	
	B. 52256	23.45	11.48	78.7	2.69	63.15	
	Mean:				4.26	100.00	
	Significant Difference, 20: 1:				.79	18.54	
Pln. Wales, Field La Resource C.5. Reaped 15.12.58 at 14.00 months. Rainfall:—84.75 inches.							
MEANS OF 4 PLOTS:	B. 53218	50.95	12.51	81.5	6.37	124.90	197
	B. 53348	40.21	15.59	91.2	6.27	122.94	
	***B. 41227**	**45.85**	**13.28**	**88.1**	**6.09**	**119.41**	
	B. 53317	46.43	13.04	84.2	6.05	118.63	
	B. 53267	43.56	13.61	86.7	5.93	116.27	
	B. 53362	45.52	11.66	80.5	5.30	103.92	
	B. 5178	41.98	12.59	82.4	5.29	103.73	
	B. 53365	40.48	12.89	86.2	5.22	102.35	
	B. 53227	39.53	13.06	85.4	5.16	101.18	
	B. 53320	39.57	12.66	83.8	5.01	98.24	
	B. 53261	37.39	13.18	85.5	4.93	96.67	
	B. 50184	43.04	11.35	81.8	4.88	95.69	
	B. 53200	38.45	12.66	83.1	4.87	95.49	
	B. 5352	35.75	13.41	85.2	4.79	93.92	
	B. 5398	35.61	12.96	85.8	4.62	90.59	
	B. 53122	32.24	14.33	87.9	4.62	90.59	
	B. 53229	37.16	11.96	84.0	4.44	87.06	
	B. 53355	30.66	13.88	87.4	4.26	83.53	
	B. 5321	35.95	11.32	82.8	4.07	79.80	
	B. 53165	34.85	10.72	77.3	3.74	73.33	
	Mean:				5.10	100.00	
	Significant Difference, 20: 1:				.96	18.82	

*** Standard Cane.**

TABLE I (Contd.)—**Results of a Second Ratoon "Variety Sorting" Trial on Pegassy Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre,		Combined Results for 3 Crops, Plants, 1st and 2nd Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Surose in Case per Acre. Tons.	
	Pln. Uitvlugt, Field 89 M.Z.E. Reaped 23.9.58 at 12.25 months.								
	Rainfall:—90.96 inches.								
MEANS OF 4 PLOTS:	B. 51311	40.94	11.71	80.2	4.79	139.24	***B. 41227**	**20.84**	135
	B. 51355	42.96	10.90	74.5	4.68	136.05	B. 49119	20.24	
	B. 51353	40.49	11.49	76.4	4.65	135.17	B. 51353	19.73	
	***B. 41227**	**35.97**	**12.12**	**78.1**	**4.36**	**126.74**	B. 51355	19.54	
	B. 51116	32.21	13.11	82.2	4.22	122.67	B. 51116	18.98	
	B. 51168	34.61	11.87	82.7	4.11	119.48	B. 51131	18.93	
	B. 49119	30.95	12.47	82.3	3.86	112.21	B. 51311	18.58	
	B. 51131	30.16	12.76	77.8	3.85	111.92	B. 5178	17.85	
	B. 5124	31.69	12.07	80.1	3.82	111.05	B. 51134	17.72	
	B. 51156	32.50	11.57	75.5	3.76	109.30	B. 51183	17.61	
	B. 5143	34.59	10.75	74.8	3.72	108.14	B. 51129	16.85	
	B. 51129	31.10	11.94	77.6	3.71	107.85	B. 51259	16.83	
	B. 51259	28.50	12.88	74.7	3.67	106.69	B. 5124	16.45	
	B. 51134	31.94	11.40	76.2	3.64	105.81	B. 5121	15.88	
	B. 5178	32.73	10.97	75.0	3.59	104.36	B. 51168	14.73	
	B. 49311	28.14	11.34	79.0	3.19	92.73	B. 51190	14.40	
	B. 51183	34.03	9.37	64.5	3.19	92.73	B. 49311	13.49	
	B. 5192	23.95	12.78	77.7	3.06	88.95	B. 51105	13.35	
	B. 51190	24.99	11.60	77.5	2.90	84.30	B. 5192	13.14	
	B. 5121	24.77	11.60	75.0	2.87	83.43	B. 51192	13.09	
	B. 51192	24.82	9.92	73.9	2.46	71.51	B. 51156	12.79	
	B. 51105	20.40	11.41	74.7	2.33	67.73	B. 5143	12.74	
	B. 51167	20.34	11.16	76.9	2.27	65.99	B. 51211	12.33	
	B. 51321	18.40	11.15	76.5	2.05	59.59	B. 51167	12.20	
	B. 51211	19.40	6.89	63.3	1.34	38.95	B. 51321	11.41	
	Mean:				3.44	100.00			
	Significant Difference, 20: 1:				.51	14.83			

* **Standard Cane.**

B. PLANT CANE VARIETY TRIALS.

Fifteen (15) Variety Trials were reaped as Plants during 1958, the results of which are presented in Table II. These experiments are classified according to soil type and locality as follows:—

Soil Type and Locality.	Index Nos. of Trials.	No. of Trials.
Clays—Demerara.	198, 199, 200, 201, 202, 203, 204, 205, 206, 207.	10
Clays—Berbice.	208, 209.	2
Pegassy Clay.	210, 211, 212	3

TABLE II.—**Results of Plant Cane Variety Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Trial No.
	Sophia, Field 7 West. Reaped 9.4.58 at 12.75 months. Rainfall:—61.14 inches.						
MEANS OF 5 PLOTS:	***B. 41227**	**57.73**	**17.21**	**92.2**	**9.93**	**121.54**	198
	B. 53227	60.69	14.93	90.0	9.06	110.89	
	B. 53200	58.83	14.79	88.9	8.70	106.49	
	B. 53218	52.18	15.73	91.2	8.21	100.49	
	B. 53165	60.74	13.41	85.3	8.15	99.76	
	B. 53329	53.30	14.96	88.2	7.97	97.55	
	B. 53362	52.74	14.41	88.3	7.60	93.02	
	B. 53320	54.38	13.95	86.2	7.58	92.78	
	B. 53317	40.65	15.59	88.2	6.34	77.60	
	Mean:				8.17	100.00	
	Significant Difference, 20: 1:				1.44	17.63	
	Sophia, Field 1 East "C". Reaped 15.4.58 at 12.25 months. Rainfall:—63.34 inches.						
MEANS OF 4 PLOTS:	D. 26/52	51.53	15.28	88.3	7.87	120.15	199
	B. 53218	53.00	14.13	86.9	7.48	114.20	
	B. 53365	51.49	14.06	87.6	7.24	110.53	
	B. 53200	51.25	14.01	86.6	7.18	109.62	
	B. 52389	51.94	13.49	85.9	7.00	106.87	
	***B. 41227**	**49.93**	**13.99**	**87.5**	**6.99**	**106.72**	
	B. 53348	48.03	14.08	87.8	6.76	103.21	
	D. 18/52	48.75	13.83	86.4	6.74	102.90	
	B. 5213	51.64	12.61	84.3	6.51	99.39	
	B. 5352	48.31	13.39	86.0	6.47	98.78	
	D. 16/52	43.64	14.67	88.5	6.41	97.86	
	D. 8/52	44.25	13.70	87.5	6.06	92.52	
	B. 53267	42.75	13.85	88.2	5.92	90.38	
	B. 53122	45.22	12.32	84.1	5.57	85.04	
	B. 5321	45.23	11.95	84.0	5.40	82.44	
	B. 52371	37.89	13.91	86.4	5.27	80.46	
	Mean:				6.55	100.00	
	Significant Difference, 20: 1:				.74	11.30	
	Sophia, Field 1 East "B". Reaped 19.4.58 at 11.25 months. Rainfall:—60.90 inches.						
MEANS OF 4 PLOTS:	C.P. 44-101	49.37	13.46	86.0	6.65	125.71	200
	B. 51168	42.29	14.37	88.7	6.08	114.93	
	***B. 41227**	**41.34**	**14.36**	**88.2**	**5.93**	**112.10**	
	Trojan	37.85	14.72	86.9	5.58	105.48	
	H. 39-3633	36.86	13.52	87.4	4.99	94.33	
	B. 5321	37.85	12.93	84.8	4.89	92.44	
	B. 52184	30.40	13.56	87.1	4.12	77.88	
	C.P. 34-79	30.20	13.45	85.5	4.06	76.75	
	Mean:				5.29	100.00	
	Significant Difference, 20: 1:				1.12	21.17	

*** Standard Cane.**

TABLE II. (Contd.)—Results of Plant Cane Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons	Pol. % Cane.	Purity.	Sucrose in Cane per Acre.		Trial No.
					Tons.	% Mean.	
	Sophia, Field 1 East "A". Reaped 19.4.58 at 11.25 months. Rainfall :—60.92 inches.						
MEANS OF 4 PLOTS:	B. 5037	45.47	15.28	89.3	6.95	122.36	201
	B. 53227	48.77	13.81	87.7	6.74	118.66	
	***B. 41227**	**43.62**	**15.16**	**88.3**	**6.61**	**116.37**	
	D. 18/52	45.96	13.91	86.7	6.39	112.50	
	H. 44-3098	49.19	12.47	85.8	6.13	107.92	
	B. 53348	42.37	14.37	87.0	6.09	107.22	
	D. 39/46	49.91	12.09	85.3	6.03	106.16	
	C.P. 44-101	42.18	14.14	87.1	5.96	104.93	
	H. 39-3633	40.44	13.19	86.9	5.33	93.84	
	F. 36-819	35.74	13.23	85.8	4.73	83.27	
	D. 11/52	35.02	13.09	84.1	4.58	80.63	
	F. 31-436	32.72	8.18	71.6	2.68	47.18	
	Mean :				5.68	100.00	
	Significant Difference, 20 : 1 :				1.07	18.84	
	Sophia, Field 12 East "B". Reaped 13.8.58 at 13.00 months. Rainfall:—83.16 inches.						
MEANS OF 5 PLOTS:	B. 50135	64.59	14.57	89.9	9.41	120.03	202
	B. 51116	61.41	14.36	90.4	8.82	112.50	
	***B. 41227**	**63.32**	**13.75**	**89.6**	**8.71**	**111.10**	
	B. 50267	65.93	13.00	86.6	8.57	109.31	
	B. 51131	58.66	14.35	90.0	8.42	107.40	
	H. 38-2915	61.10	13.59	89.9	8.30	105.87	
	H. 39-5803	54.53	14.25	90.1	7.77	99.11	
	B. 50377	60.27	12.80	87.4	7.71	98.34	
	B. 51192	57.68	12.98	88.2	7.49	95.54	
	H. 39-7028	57.12	12.57	88.8	7.18	91.58	
	H. 44-3098	52.65	13.42	89.5	7.07	90.18	
	B. 5037	54.17	12.98	89.1	7.03	89.67	
	H. 38-4443	53.81	12.53	85.1	6.74	85.97	
	H. 39-3633	57.25	11.43	84.2	6.54	83.42	
	Mean:				7.84	100.00	
	Significant Difference, 20: 1:				.94	11.99	
	Sophia, Field 5 West "B". Reaped 18.11.58 at 11.00 months. Rainfall:—74.60 inches.						
MEANS OF 5 PLOTS:	***B. 41227**	**53.09**	**16.32**	**87.2**	**8.67**	**158.50**	203
	B. 34104	45.21	14.54	90.5	6.57	120.11	
	P.O.J. 2878	33.78	15.60	87.7	5.27	96.34	
	Diamond 10	29.20	15.22	87.4	4.44	81.17	
	Co. 421	28.23	15.04	87.8	4.24	77.51	
	D. 625	30.98	11.67	77.8	3.61	66.00	
	Mean:				5.47	100.00	
	Significant Difference, 20: 1:				.83	15.17	

*** Standard Cane.**

TABLE II. (Contd.)—**Results of Plant Cane Variety Trials on Demerara Frontland Clay.**

	Variety.	Cane. per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre.		Trial No.
					Tons.	% Mean.	
	Sophia, Field 5 West "C". Reaped 19.11.58 at 11.00 months. Rainfall:—74.60 inches.						
MEANS OF 5 PLOTS:	B. 51131	53.04	14.56	82.9	7.72	118.04	204
	***B. 41227**	**50.77**	**14.65**	**86.3**	**7.44**	**113.76**	
	B. 51134	45.90	15.35	88.7	7.05	107.80	
	C.P. 44-101	42.73	15.42	89.9	6.59	100.76	
	Q. 57	41.07	14.60	89.6	6.00	91.74	
	H. 39-5803	37.14	15.61	89.6	5.80	88.68	
	P.R. 905	34.04	14.98	88.5	5.10	77.98	
	Mean:				6.54	100.00	
	Significant Difference, 20: 1:				.58	8.87	
	Sophia, Field 5 West "A". Reaped 22.11.58 at 11.00 months. Rainfall:—74.50 inches.						
MEANS OF 5 PLOTS:	***B. 41227**	**50.67**	**15.86**	**88.2**	**8.04**	**119.64**	205
	D.B. 169/53	49.42	15.52	91.1	7.67	114.14	
	B. 53200	51.28	14.42	85.3	7.40	110.12	
	B. 5212	45.84	15.89	87.5	7.28	108.33	
	B. 52144	44.82	14.96	87.7	6.71	99.85	
	D.B. 255/53	44.90	14.91	89.2	6.70	99.70	
	B. 5213	50.13	13.27	85.4	6.65	98.96	
	B. 53267	41.11	16.11	90.6	6.62	98.51	
	H. 39-3633	54.32	11.42	80.4	6.20	92.26	
	B. 53365	39.99	13.78	84.0	5.51	81.99	
	P.R. 1000	36.59	13.91	86.0	5.09	75.74	
	Mean:				6.72	100.00	
	Significant Difference, 20: 1:				.77	11.46	
	Pln. Lusignan, Field 39 E. Reaped 16.10.58 at 14.50 months. Rainfall:—72.07 inches.						
MEANS OF 5 PLOTS:	D. 141/46	55.19	15.92	87.3	8.79	122.77	206
	D. 49/46	59.10	12.87	80.3	7.61	106.28	
	D. 133/46	52.34	13.80	82.1	7.22	100.83	
	H. 38-2915	54.36	13.16	83.9	7.15	99.86	
	***B. 41227**	**51.66**	**13.69**	**80.3**	**7.07**	**98.74**	
	B. 51131	43.97	15.98	85.4	7.03	98.18	
	B. 46364	53.35	12.46	80.4	6.54	91.34	
	H. 38-4443	44.31	13.26	81.3	5.88	82.12	
	Mean:				7.16	100.00	
	Significant Difference, 20: 1:				.84	11.73	

*** Standard Cane.**

TABLE II. (Contd.)—**Results of Plant Cane Variety Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Trial No.
	Pln. Ogle, Field T.K.E. 29. Reaped 30.10.58 at 11.75 months. Rainfall:—69.40 inches.						
MEANS OF 5 PLOTS:	***B. 41227**	**51.01**	**15.19**	**87.7**	**7.75**	**128.74**	207
	B. 53317	45.68	14.41	86.2	6.58	109.30	
	B. 53261	48.74	13.12	81.6	6.39	106.15	
	B. 53355	39.89	15.13	87.3	6.04	100.33	
	B. 53329	42.04	13.63	83.6	5.73	95.18	
	B. 5398	41.15	12.75	84.7	5.25	87.21	
	B. 53362	43.31	12.04	81.6	5.21	86.54	
	B. 53320	40.90	12.75	82.4	5.21	86.54	
	Mean:				6.02	100.00	
	Significant Difference, 20:1:				.67	11.13	

Results of Plant Cane Variety Trials on Berbice Frontland Clay.

	Pln. Port Mourant, Field T.L.E. 12. Reaped 28.8.58 at 12.25 months. Rainfall:—68.08 inches.						
MEANS OF 5 PLOTS:	B. 51116	56.30	14.73	87.7	8.29	145.44	208
	D. 184/46	42.41	16.91	89.9	7.17	125.79	
	***B. 41227**	**41.46**	**15.35**	**90.6**	**6.36**	**111.58**	
	B. 51131	38.94	14.84	87.9	5.78	101.40	
	B. 46364	40.21	13.17	85.2	5.30	92.98	
	D. 39/46	33.63	13.32	85.2	4.48	78.60	
	B. 52178	33.74	12.22	81.5	4.12	72.28	
	H. 44–3098	33.43	12.18	81.6	4.07	71.40	
	Mean:				5.70	100.00	
	Significant Difference, 20:1:				.61	10.70	
	Pln. Rose Hall, Field Smithson 10. Reaped 2.12.58 at 11.25 months. Rainfall:—88.95 inches.						
MEANS OF 5 PLOTS:	H. 39–7028	45.00	14.55	85.5	6.55	116.55	209
	***B. 41227**	**41.89**	**15.08**	**83.5**	**6.31**	**112.28**	
	C.P. 44–101	42.53	13.93	80.6	5.92	105.34	
	B. 50184	42.05	13.93	79.1	5.86	104.27	
	B. 52178	40.42	13.81	81.2	5.58	99.29	
	B. 5178	42.76	11.99	76.8	5.13	91.28	
	H. 44–3098	37.71	13.14	80.1	4.96	88.26	
	D. 44/52	29.09	15.95	81.5	4.64	82.56	
	Mean:				5.62	100.00	
	Significant Difference, 20:1:				.61	10.85	

*** Standard Cane.**

TABLE II. (Contd.)—**Results of Plant Cane Variety Trials on Pegassy Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Trial No.
Pln. Blairmont, Field H.P. 3 L.S. Reaped 21.10.58 at 13.25 months. Rainfall:—75.05 inches.							
MEANS OF 5 PLOTS:	***B. 41227**	**47.50**	**15.92**	**87.8**	**7.56**	**141.31**	210
	D. 184/46	38.62	15.89	87.9	6.14	114.77	
	B. 5178	48.50	11.77	73.2	5.71	106.73	
	B. 51183	46.36	11.22	74.1	5.20	97.20	
	B. 52178	40.82	12.15	72.2	4.96	92.71	
	Q. 50	35.02	13.39	83.2	4.69	87.66	
	Q. 28	30.72	14.90	85.3	4.58	85.61	
	H. 38–4443	36.42	10.98	77.6	4.00	74.77	
	Mean:				5.35	100.00	
	Significant Difference, 20:1:				.64	11.96	
Pln. Diamond, Field 26 W.G.G. Reaped 31.3.58 at 12.75 months. Rainfall:—69.14 inches.							
MEANS OF 5 PLOTS:	B. 5277	38.92	14.23	89.1	5.54	125.06	211
	***B. 41227**	**41.68**	**12.61**	**85.2**	**5.26**	**118.74**	
	B. 52371	35.60	13.38	85.8	4.76	107.45	
	B. 49119	38.02	12.06	85.2	4.58	103.39	
	B. 52253	31.90	13.59	87.4	4.34	97.97	
	B. 52222	38.73	11.02	82.6	4.27	96.39	
	B. 52257	28.01	12.92	86.0	3.62	81.72	
	P.R. 1000	28.07	10.84	81.0	3.04	68.62	
	Mean:				4.43	100.00	
	Significant Difference, 20: 1:				1.01	22.80	
Pln. Diamond, Field 111/52. Reaped 24.11.58 at 12.25 months. Rainfall:—85.84 inches.							
MEANS OF 5 PLOTS:	B. 51131	46.40	14.62	88.5	6.78	119.58	212
	***B. 41227**	**46.64**	**14.22**	**87.8**	**6.63**	**116.93**	
	B. 50135	47.63	12.60	82.2	6.00	105.82	
	B. 50347	46.36	12.88	84.7	5.97	105.29	
	B. 5124	37.97	15.30	87.9	5.81	102.47	
	B. 51134	42.66	13.52	84.3	5.77	101.76	
	B. 50275	39.33	13.01	85.2	5.12	90.30	
	B. 51211	35.32	9.37	82.0	3.31	58.38	
	Mean:				5.67	100.00	
	Significant Difference, 20 : 1 :				.67	11.82	

*** Standard Cane.**

C. FIRST RATOON VARIETY TRIALS.

Twenty-six (26) Variety Trials were reaped as First Ratoons during 1958. The results of these trials are presented in Table III.

The classification of the First Ratoon Variety Trials according to soil type and locality is as follows :—

Soil Type and Locality.	Index Nos. of Trials.	No. of Trials.
Clays—Demerara. ..	162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177.	16
Clays—Berbice. ..	179, 180, 183, 184, 185, 186.	6
Riverside Clay. ..	187, 188, 189.	3
Pegassy Clay. ..	190.	1

TABLE III.—Results of First Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity	Sucrose in Cane per Acre.		Combined results for 2 Crops, Plants and 1st Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Sucrose in Cane per Acre, Tons.	
	Sophia, Field 11 West "A". Reaped 24.2.58 at 12.00 months. Rainfall :—55.45 inches.								
MEANS OF 5 PLOTS:	B. 49119	46.44	12.94	84.9	6.01	122.40	B. 49119	13.80	162
	B. 50347	49.42	12.02	83.4	5.94	120.98	***B. 41227**	**12.50**	
	B. 5098	41.11	12.33	84.1	5.07	103.26	B. 47419	12.50	
	B. 47419	41.85	11.92	83.3	4.99	101.63	B. 49353	11.97	
	B. 49353	38.31	12.91	87.4	4.95	100.81	B. 50275	11.95	
	B. 50275	40.43	12.05	83.4	4.87	99.19	B. 50347	11.44	
	***B. 41227**	**41.42**	**11.67**	**83.6**	**4.83**	**98.37**	Pindar	11.36	
	B. 46288	36.67	13.01	86.4	4.77	97.15	B. 5098	11.25	
	Pindar	36.42	12.31	83.6	4.48	91.24	B. 46288	11.12	
	B. 50267	37.47	11.10	80.6	4.16	84.72	B. 50267	10.63	
	B. 50141	35.15	11.26	77.6	3.96	80.65	B. 50141	10.14	
	Mean:				4.91	100.00			
	Significant Difference, 20: 1:				.86	17.52			
	Sophia, Field 11 West "B". Reaped 22.2.58 at 12.25 months. Rainfall:—55.45 inches.								
MEANS OF 5 PLOTS:	B. 49119	52.39	14.17	87.4	7.43	131.04	B. 49119	17.17	163
	B. 47419	45.11	14.48	88.5	6.53	115.17	B. 47419	15.56	
	B. 5124	42.29	14.71	86.3	6.22	109.70	B. 51131	14.80	
	B. 51353	48.53	12.69	81.4	6.16	108.64	B. 51353	13.52	
	***B 41227**	**45.13**	**13.39**	**87.0**	**6.04**	**106.53**	B. 51116	13.48	
	B. 5121	48.70	12.38	84.3	6.03	106.35	B. 5124	13.44	
	B. 51116	43.95	13.25	87.0	5.83	102.82	***B 41227**	**13.08**	
	B. 51183	44.71	12.70	87.2	5.68	100.18	B. 5121	12.93	
	B. 51131	39.81	13.81	87.8	5.50	97.00	B. 49311	12.86	
	B. 46288	40.88	13.26	88.5	5.42	95.59	B. 51211	12.74	
	B. 51211	39.66	13.65	89.2	5.41	95.41	B. 51183	12.43	
	B. 49311	36.49	14.18	89.0	5.17	91.18	B. 46288	11.81	
	B. 51355	45.82	11.23	80.7	5.15	90.83	B. 51105	11.70	
	B. 51321	35.88	14.08	88.3	5.05	89.07	Pindar	11.67	
	Pindar	36.73	13.55	87.3	4.98	87.83	B. 51321	11.08	
	B. 5143	40.46	12.28	84.2	4.97	87.65	B. 51355	10.94	
	B. 51105	36.14	13.39	86.8	4.84	85.36	B. 5143	10.42	
	Mean :				5.67	100.00			
	Significant Difference, 20: 1:				.99	17.46			
	Sophia, Field 1 West "B". Reaped 4.3.58 at 12.00 months. Rainfall:—57.22 inches.								
MEANS OF 5 PLOTS:	***B. 41227**	**45.70**	**14.61**	**86.8**	**6.68**	**129.21**	***B. 41227**	**13.87**	164
	B. 49198	45.45	13.72	85.3	6.24	120.70	B. 52178	12.93	
	B. 52178	40.76	14.67	88.1	5.98	115.67	B. 49198	12.84	
	B. 49311	36.52	14.04	87.1	5.13	99.23	B. 49311	11.76	
	N.Co. 330	37.77	12.90	85.5	4.87	94.20	Co. 413	10.94	
	Co. 413	37.03	12.74	85.7	4.72	91.30	N.Co. 330	10.57	
	Trojan	32.14	13.29	85.4	4.27	82.59	Trojan	9.55	
	B. 51190	31.25	11.06	81.5	3.46	66.92	B. 51190	9.53	
	Mean :				5.17	100.00			
	Significant Difference, 20: 1:				1.01	19.54			

*** Standard Cane.**

TABLE III (Contd.)—Results of First Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
Sophia, Field 14 West "A". Reaped 11.3.58 at 12.00 months. Rainfall :—57.31 inches.									
MEANS OF 5 PLOTS:	***B. 41227**	**55.21**	**14.20**	**86.4**	**7.84**	**163.67**	***B. 41227**	**16.15**	165
	B. 34104	45.26	13.05	86.7	5.91	123.38	B. 34104	13.58	
	P.O.J. 2878	31.96	14.17	86.5	4.53	94.57	Co. 421	9.93	
	Co. 421	36.45	12.22	84.2	4.46	93.11	P.O.J. 2878	9.81	
	Diamond 10	26.83	14.15	87.9	3.79	79.12	Diamond 10	8.64	
	D. 625	17.59	12.72	81.9	2.24	46.76	D. 625	5.73	
	Mean :				4.79	100.00			
	Significant Difference, 20 : 1 :				1.15	24.01			
Sophia, Field 14 West "B". Reaped 11.3.58 at 12.00 months. Rainfall :—57.31 inches.									
MEANS OF 5 PLOTS:	***B. 41227**	**49.56**	**15.26**	**86.8**	**7.56**	**121.74**	***B. 41227**	**15.01**	166
	B. 49198	45.78	14.91	85.0	6.82	109.82	B. 49198	13.30	
	Pepecuca	39.78	15.30	86.6	6.09	98.07	B. 50115	11.78	
	D. 142/45	40.96	14.81	88.4	6.06	97.58	Pepecuca	11.76	
	B. 49353	36.94	14.54	87.8	5.37	86.47	B. 49353	11.70	
	B. 50115	40.07	13.37	85.3	5.36	86.31	D. 142/45	11.37	
	Mean :				6.21	100.00			
	Significant Difference, 20 : 1 :				.94	15.14			
Sophia, Field 9 East "A". Reaped 27.3.58 at 11.75 months. Rainfall :—59.34 inches.									
MEANS OF 5 PLOTS:	***B. 41227**	**46.53**	**14.00**	**86.7**	**6.51**	**147.62**	***B. 41227**	**13.18**	167
	B. 34104	44.13	14.04	87.3	6.19	140.36	B. 34104	12.36	
	P.O.J. 2878	33.47	13.82	84.0	4.63	104.99	P.O.J. 2878	9.83	
	Co. 421	27.09	12.91	82.1	3.50	79.36	Diamond 10	7.92	
	Diamond 10	22.85	15.22	90.7	3.48	78.91	Co. 421	7.28	
	D. 625	17.72	12.13	80.1	2.15	48.75	D. 625	6.21	
	Mean :				4.41	100.00			
	Significant Difference, 20 :1 :				.80	18.14			
Sophia, Field 15 East "C". Reaped 27.8.58 at 12.25 months. Rainfall :—79.00 inches.									
MEANS OF 5 PLOTS:	B. 52144	47.82	14.11	88.5	6.75	124.31	B. 52144	13.85	170
	***B. 41227**	**44.53**	**14.16**	**87.8**	**6.31**	**116.21**	***B. 41227**	**13.75**	
	B. 5235	44.26	12.60	86.7	5.58	102.76	B. 52214	12.10	
	H. 39-3633	42.26	13.08	86.6	5.53	101.84	H. 39-3633	11.73	
	B. 52214	44.82	12.02	82.0	5.39	99.26	B. 5235	11.39	
	B. 52389	39.73	12.17	83.4	4.84	89.13	B. 52389	11.30	
	B. 52256	35.29	10.17	77.1	3.59	66.11	B. 52256	9.48	
	Mean :				5.43	100.00			
	Significant Difference, 20 : 1 :				.64	11.79			

*** Standard Cane.**

TABLE III. (Contd.)—Results of First Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
	Sophia, Field 15 East "B". Reaped 28.8.58 at 12.25 months. Rainfall :—79.00 inches.								
MEANS OF 5 PLOTS.	***B. 41227**	**50.57**	**12.82**	**85.6**	**6.48**	**111.92**	B. 5212	14.06	169
	B. 5212	46.04	13.48	87.1	6.21	107.25	***B. 41227**	**13.66**	
	B. 5277	49.36	12.56	87.0	6.20	107.08	B. 5277	13.62	
	B. 52158	46.54	12.74	82.8	5.93	102.42	B. 52222	13.08	
	B. 52222	47.09	12.00	83.8	5.65	97.58	B. 52306	11.79	
	B. 52135	43.82	12.13	85.4	5.32	91.88	B. 52158	11.47	
	B. 52306	40.79	11.58	80.6	4.72	81.52	B. 52135	11.10	
	Mean:				5.79	100.00			
	Significant Difference, 20: 1:				.58	10.02			
	Sophia, Field 15 East "A". Reaped 29.8.58 at 12.25 months. Rainfall :—79.00 inches.								
MEANS OF 5 PLOTS:	***B. 41227**	**48.31**	**14.98**	**88.2**	**7.24**	**119.67**	***B. 41227**	**15.50**	168
	B. 52107	53.66	13.47	86.0	7.23	119.50	B. 52315	15.24	
	B. 52315	49.28	13.44	83.4	6.62	109.42	B. 52107	15.06	
	B. 52257	44.32	13.63	87.3	6.04	99.83	B. 52257	14.04	
	B. 52253	41.12	13.57	88.1	5.58	92.23	B. 52162	11.96	
	B. 52162	42.68	12.42	85.3	5.30	87.60	B. 52253	11.62	
	B. 52184	29.38	14.73	88.9	4.33	71.57	B. 52184	9.43	
	Mean:				6.05	100.00			
	Significant Difference, 20: 1:				.61	10.08			
	Sophia, Field 17 East. Reaped 17.9.58 at 11.25 months. Rainfall :— 78.84 inches.								
MEANS OF 4 PLOTS:	Trojan	52.03	14.72	83.3	7.66	125.99	***B. 41227**	**15.41**	171
	***B. 41227**	**53.28**	**14.01**	**84.2**	**7.46**	**122.70**	Trojan	15.32	
	D. 30/52	46.62	15.45	86.7	7.20	118.42	D. 30/52	14.00	
	D. 18/52	48.70	12.48	76.6	6.08	100.00	D. 40/52	13.02	
	D. 27/52	43.99	12.70	77.1	5.59	91.94	D. 11/52	12.91	
	D. 57/52	41.40	13.21	79.2	5.47	89.97	D. 18/52	12.86	
	D. 13/52	48.02	11.26	71.9	5.41	88.98	D. 16/52	12.60	
	D. 11/52	42.08	12.84	77.0	5.40	88.82	D. 13/52	12.00	
	D. 16/52	46.79	11.45	75.4	5.36	88.16	D. 57/52	11.42	
	D. 40/52	42.74	12.20	79.5	5.21	85.69	D. 27/52	11.29	
	Mean:				6.08	100.00			
	Significant Difference, 20: 1:				.81	13.32			

* Standard Cane.

TABLE III. (Contd.)—**Results of First Ratoon Variety Cultivation Trials on Demerara Frontland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre. Tons.	Trial No
					"Standard Estate" System.				
					Sophia, Field 3 East "B". Reaped 16.10.58 at 12.00 months.				
					Rainfall :—78.69 inches.				
MEANS OF 4 PLOTS:	B. 47258	51.25	13.91	84.0	7.13	114.81	B. 47258	13.59	172
	***B. 41227**	**46.38**	**14.58**	**83.7**	**6.76**	**108.86**	B. 4098	13.28	
	D. 62/43	50.31	13.24	86.8	6.66	107.25	D. 158/41	13.24	
	D. 158/41	51.24	12.79	83.5	6.55	105.47	D. 62/43	12.45	
	B. 4098	46.25	12.16	81.8	5.62	90.50	***B. 41227**	**12.11**	
	B. 34104	42.03	13.09	84.5	5.50	88.57	B. 34104	10.89	
	B. 37161	44.77	12.05	84.0	5.27	84.86	B. 37161	9.35	
	Mean :				6.21	100.00			
	Significant Difference, 20 : 1 :				1.04	16.75			
					"Cameron-Williams" System.				
					Sophia, Field 3 East "A". Reaped 24.10.58 at 12.00 months.				
					Rainfall :—78.68 inches.				
MEANS OF 4 PLOTS:	D. 62/43	53.99	14.08	86.2	7.60	110.30	B. 47258	16.01	173
	D. 158/41	55.45	13.22	84.5	7.33	106.39	D. 62/43	14.86	
	B. 47258	55.00	13.21	85.2	7.27	105.52	D. 158/41	14.53	
	***B. 41227**	**50.61**	**14.30**	**86.7**	**7.24**	**105.08**	B. 4098	14.51	
	B. 37161	49.59	12.83	86.0	6.36	92.31	***B. 41227**	**14.39**	
	B. 4098	50.53	12.58	88.5	6.36	92.31	B. 34104	13.43	
	B. 34104	46.56	13.10	85.9	6.10	88.53	B. 37161	11.54	
	Mean :				6.89	100.00			
	Significant Difference, 20 : 1 :				—	—			

TABLE III. (Contd.)—Results of First Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre.		Combined results for 2 Crops, Plants and 1st Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Sucrose in Cane per Acre. Tons.	
	Pln. Farm, Field A. 19. Reaped 19. 3. 58 at 11.75 months. Rainfall :—69.42 inches.								
MEANS OF 5 PLOTS:	***B. 41227**	**35.51**	**15.50**	**91.1**	**5.50**	**126.44**	***B. 41227**	**10.46**	174
	B. 47258	34.16	14.96	89.7	5.11	117.47	B. 43413	9.90	
	Pindar	35.50	14.32	89.4	5.08	116.78	B. 47258	9.67	
	B. 43413	36.33	13.63	85.7	4.95	113.79	Pindar	9.65	
	Pepecuca	29.65	15.16	89.1	4.50	103.45	Co. 413	8.03	
	B. 4214	29.27	13.37	88.7	3.91	89.88	B. 4214	8.02	
	Co. 413	29.18	12.47	86.7	3.64	83.68	Pepecuca	7.55	
	Trojan	24.06	13.71	86.0	3.30	75.86	N.Co. 330	6.43	
	N. Co. 330	24.38	13.13	87.7	3.20	73.56	Trojan	5.80	
	Mean:				4.35	100.00			
	Significant Difference, 20: 1:				.66	15.17			
	Pln. L.B.I., Field No. 55. Reaped 20. 3. 58 at 12.25 months. Rainfall :—61.09 inches.								
MEANS OF 5 PLOTS.	***B. 41227**	**40.83**	**13.50**	**83.7**	**5.52**	**116.21**	***B. 41227**	**13.89**	175
	D. 106/46	40.82	13.20	84.6	5.39	113.47	B. 4214	11.21	
	N.Co. 330	39.95	12.16	81.9	4.86	102.32	D. 106/46	11.08	
	B. 4214	39.21	11.80	81.2	4.63	97.47	B. 50115	10.36	
	Co. 413	38.79	12.01	82.0	4.60	96.84	N.Co. 330	10.32	
	D. 133/46	37.43	11.67	80.7	4.37	92.00	Pepecuca	9.91	
	Pepecuca	35.08	12.37	81.6	4.34	91.37	Co. 413	9.89	
	B. 50115	38.69	11.02	80.8	4.26	89.68	D. 133/46	9.29	
	Mean:				4.75	100.00			
	Significant Difference, 20: 1:				.64	13.47			

* **Standard Cane.**

TABLE III (Contd.) —Results of First Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Cane. Pol. %	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. Mean. %	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre, Tons.	Trial No.
Pln. Lusignan, Field M.X.E.6. Reaped 4. 9. 58 at 10.75 months. Rainfall :—67.33 inches.									
MEANS OF 5 PLOTS :	B. 50135	46.81	15.30	88.6	7.16	123.66	B. 50135	11.55	176
	B. 50112	42.54	14.69	87.6	6.25	107.94	***B. 41227**	**10.71**	
	***B. 41227**	**40.77**	**15.21**	**85.7**	**6.20**	**107.08**	B. 50112	10.34	
	B. 50210	42.03	14.09	84.2	5.92	102.25	B. 51134	10.15	
	B. 51134	37.68	15.40	86.6	5.80	100.17	B. 50210	9.75	
	B. 5178	41.17	13.25	81.1	5.45	94.13	B. 50267	9.47	
	B. 50267	38.09	13.54	85.8	5.16	89.12	B. 5178	9.03	
	Q. 28	28.05	15.65	87.6	4.39	75.82	Q. 28	7.28	
	Mean:				5.79	100.00			
	Significant Difference, 20 : 1 :				.72	12.44			
Pln. Lusignan, Field G.H. 26 "B". Reaped 12.9.58 at 10.50 months. Rainfall :—73.66 inches.									
MEANS OF 5 PLOTS.	Trojan	50.42	14.77	84.6	7.45	117.14	***B. 41227**	**12.86**	177
	***B. 41227**	**50.14**	**13.95**	**83.9**	**6.98**	**109.75**	N. Co. 330	12.61	
	Co. 413	53.67	12.38	81.1	6.64	104.40	Co. 413	12.44	
	H. 39-7028	47.04	13.37	84.2	6.29	98.90	Trojan	12.39	
	N. Co. 330	44.49	14.00	83.6	6.23	97.95	N. Co. 300	12.11	
	Pepecuca	41.65	14.83	85.4	6.18	97.17	H. 39-7028	11.33	
	N. Co. 300	45.10	13.65	83.4	6.16	96.39	Pepecuca	10.73	
	Q. 28	35.19	14.16	84.0	4.98	78.30	Q. 28	10.15	
	Mean:				6.36	100.00			
	Significant Difference, 20 : 1 :				.72	12.26			

*** Standard Cane.**

TABLE III (Contd.)—Results of First Ratoon Variety Trials on Berbice Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre.		Combined results for 2 Crops, Plants and 1st Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Sucrose in Cane per Acre. Tons.	
	Pln. Albion, Field Chesney 18. Reaped 26.8.58 at 12.25 months. Rainfall :—95.56 inches.								
MEANS OF 5 PLOTS.	D. 184/46	44.00	16.50	89.6	7.26	107.72	D. 184/46	13.17	179
	B. 50155	51.34	13.56	84.6	6.96	103.26	B. 50275	12.82	
	Pindar	44.38	15.47	89.2	6.87	101.93	B. 49119	12.24	
	***B. 41227**	**49.54**	**13.68**	**85.1**	**6.78**	**100.59**	***B. 41227**	**12.19**	
	B. 50275	55.16	12.15	83.5	6.70	99.41	B. 50155	12.17	
	B. 49119	47.18	13.98	86.1	6.60	97.92	B. 50347	12.09	
	B. 50347	53.18	12.03	82.2	6.40	94.96	Pindar	11.77	
	B. 50210	44.40	14.26	85.3	6.33	93.92	B. 50210	11.59	
	Mean :				6.74	100.00			
	Significant Difference, 20 : 1 :				—	—			
	Pln. Bath, Field 22 Waterloo. Reaped 30. 10. 58 at 10.75 months. Rainfall :—96.50 inches.								
MEANS OF 5 PLOTS :	***B. 41227**	**39.17**	**15.57**	**87.8**	**6.19**	**117.46**	B. 49119	11.67	180
	B. 49119	40.84	15.16	86.3	6.19	117.46	***B. 41227**	**11.31**	
	N. Co. 330	38.27	15.59	87.1	5.97	113.28	N. Co. 330	11.00	
	B. 5011	36.65	14.48	85.1	5.31	100.76	Co. 413	9.74	
	B. 50210	36.17	13.90	84.4	5.03	95.45	B. 5011	9.29	
	Pepecuca	32.29	15.02	86.3	4.85	92.03	B. 50210	9.16	
	Co. 413	36.72	12.83	84.1	4.71	89.37	Pepecuca	8.62	
	Q. 28	27.27	14.44	85.5	3.94	74.76	Q. 28	6.95	
	Mean :				5.27	100.00			
	Significant Difference, 20 : 1 :				.67	12.71			
	Pln. Port Mourant, Field T.L.O.G. 24. Reaped 10.4.58 at 11.50 months. Rainfall :—51.81 inches.								
MEANS OF 4 PLOTS :	B. 37161	28.57	14.35	86.1	4.10	120.59	B. 45137	11.02	184
	B. 45137	29.12	13.86	86.7	4.03	118.53	B. 47258	10.84	
	B. 47258	29.02	13.69	86.4	3.97	116.76	B. 37161	10.75	
	B. 4373	23.60	13.69	86.5	3.23	95.00	***B. 41227**	**9.87**	
	B. 47225	21.60	13.37	84.0	2.89	85.00	B. 47225	9.16	
	***B. 41227**	**20.60**	**13.86**	**86.3**	**2.86**	**84.12**	B. 4373	8.57	
	Pindar	20.05	13.61	87.2	2.73	80.29	Pindar	8.38	
	Mean :				3.40	100.00			
	Significant Difference, 20 : 1 :				.33	9.71			

* Standard Cane.

TABLE III (Contd.)—Results of First Ratoon Variety Trials on Berbice Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre, Tons.	Trial No.
	Pln. Port Mourant, Field A.E.W. 2. Reaped 12.5.58 at 13.75 months.								
	Rainfall:—62.77 inches.								
MEANS OF 4 PLOTS:	B. 45151	51.02	10.43	79.2	5.32	107.04	B. 45151	12.34	183
	***B. 41227**	**52.62**	**9.90**	**78.9**	**5.21**	**104.83**	***B. 41227**	**11.17**	
	Pindar	49.10	10.50	82.0	5.16	103.82	B. 37161	10.98	
	Trojan	50.12	10.30	80.0	5.16	103.82	Pindar	10.26	
	B. 4373	52.02	9.74	77.7	5.07	102.01	B. 4373	9.80	
	B. 37161	49.77	10.16	81.6	5.06	101.81	Trojan	9.68	
	B. 47379	52.07	9.38	79.5	4.89	98.39	B. 47379	9.43	
	H. 32–1063	44.52	8.52	75.6	3.79	76.26	H. 32–1063	8.61	
	Mean :				4.97	100.00			
	Significant Difference, 20: 1:				—	—			
	Pln. Port Mourant, Field W.O.G. 16. Reaped 27.8.58 at 12.25 months.								
	Rainfall:—62.80 inches.								
MEANS OF 5 PLOTS:	B. 49119	45.13	14.23	85.9	6.42	121.36	B. 49119	12.88	185
	B. 50347	47.84	12.24	80.1	5.86	110.78	D. 184/46	12.64	
	***B. 41227**	**43.32**	**12.68**	**83.1**	**5.49**	**103.78**	B. 50275	12.11	
	Pindar	41.99	12.90	79.8	5.42	102.46	B. 50347	12.08	
	B. 50275	46.12	11.74	82.5	5.41	102.27	***B. 41227**	**11.42**	
	D. 184/46	37.65	12.85	85.3	4.84	91.49	Pindar	11.41	
	B. 50210	39.48	11.61	80.6	4.58	86.58	B. 50210	9.85	
	B. 50155	37.37	11.55	82.3	4.32	81.66	B. 50155	9.47	
	Mean :				5.29	100.00			
	Significant Difference, 20: 1:				.70	13.23			
	Pln. Rose Hall, Field 63 Lot 20 "A". Reaped 27. 2. 58 at 11.75 months.								
	Rainfall :—53.34 inches.								
MEANS OF 5 PLOTS:	B. 51355	58.20	12.21	82.9	7.11	131.91	B. 51355	14.81	186
	***B 41227**	**49.50**	**13.83**	**86.5**	**6.84**	**126.90**	***B 41227**	**13.69**	
	B. 51129	43.55	14.45	86.5	6.29	116.70	B. 51129	12.44	
	B. 51156	43.90	12.64	83.2	5.55	102.97	N.Co. 330	11.44	
	N.Co. 330	41.41	13.30	86.0	5.51	102.23	B. 5121	11.08	
	B. 5121	46.88	11.65	82.6	5.46	101.30	Trojan	10.90	
	Trojan	37.65	13.17	83.9	4.96	92.02	B. 51156	10.33	
	Q. 28	14.02	10.14	77.4	1.42	26.35	Q. 28	5.23	
	Mean :				5.39	100.00			
	Significant Difference, 20 : 1 :				.81	15.03			

*** Standard Cane.**

TABLE III (Contd.)—Results of First Ratoon Variety Trials on Riverside Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity	Sucrose in Cane per Acre.		Combined results for 2 Crops, Plants and 1st Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Sucrose in Cane per Acre. Tons.	
Pln. Farm, Field L.D. 25/27. Reaped 24.3.58 at 11.50 months. Rainfall :—63.69 inches									
MEANS OF 5 PLOTS :	B. 5121	46.66	12.36	84.3	5.77	115.63	*B. 41227	11.10	187
	B. 51129	39.89	13.84	86.8	5.52	110.62	B. 5121	10.34	
	***B. 41227**	**42.72**	**12.83**	**86.4**	**5.48**	**109.82**	B. 50115	9.91	
	B. 51355	50.34	10.81	78.2	5.44	109.02	B. 51129	9.80	
	B. 50115	41.22	12.60	85.7	5.19	104.01	B. 51355	9.72	
	B. 51259	38.93	12.23	83.4	4.76	95.39	B. 51259	9.05	
	N.Co. 300	32.17	12.10	84.4	3.89	77.96	B. 51190	8.24	
	B. 51190	37.28	10.33	75.6	3.85	77.15	N.Co. 300	7.51	
	Mean:				4.99	100.00			
	Significant Difference, 20 : 1 :				.58	11.62			
Pln. Versailles, Field V. 5. Reaped 28. 5. 58 at 13.00 months. Rainfall :—83.66 inches.									
MEANS OF 5 PLOTS :	***B. 41227**	**45.97**	**15.10**	**88.5**	**6.94**	**144.58**	***B. 41227**	**13.76**	188
	H. 38–2915	44.04	14.00	89.3	6.17	128.54	H. 38–2915	12.30	
	B. 45270	43.22	12.43	83.3	5.37	111.87	B. 51190	10.94	
	B. 51190	35.48	14.02	88.4	4.97	103.54	B. 45270	10.77	
	P.R. 1000	29.26	13.70	85.9	4.01	83.54	P.R. 1000	8.35	
	B. 51259	29.23	12.81	80.9	3.75	78.12	N.Co. 300	8.23	
	H. 37–1933	31.95	11.53	81.3	3.68	76.67	B. 51259	8.07	
	N.Co. 300	28.47	12.34	82.3	3.51	73.12	H. 37–1933	7.96	
	Mean:				4.80	100.00			
	Significant Difference, 20 : 1 :				.46	9.58			
Pln. Wales, Field V. La F.A. 5 E. Reaped 24.11.58 at 12.50 months. Rainfall :—67.32 inches.									
MEANS OF 5 PLOTS :	***B. 41227**	**44.53**	**15.43**	**87.4**	**6.87**	**125.36**	***B. 41227**	**12.31**	189
	B. 51116	39.60	16.15	89.9	6.40	116.79	B. 51116	10.61	
	B. 51353	42.58	14.02	85.4	5.97	108.94	B. 51183	9.38	
	B. 51183	41.26	13.50	85.2	5.57	101.64	B. 51134	9.31	
	B. 5178	38.16	14.03	85.4	5.35	97.63	B. 51353	9.21	
	B. 5192	31.10	15.76	88.1	4.90	89.42	B. 5178	9.09	
	B. 51134	37.68	12.95	82.6	4.88	89.05	B. 51311	8.10	
	B. 51311	27.50	14.14	86.3	3.89	70.99	B. 5192	8.09	
	Mean:				5.48	100.00			
	Significant Difference; 20 : 1:				.78	14.23			

*** Standard Cane.**

TABLE III (Contd.)—**Results of a First Ratoon Variety Trial on Pegassy Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre, Tons.	Sucrose in Cane per Acre, % Mean.	Combined results for 2 Crops, Plants and 1st Ratoons. Variety.	Combined results for 2 Crops, Plants and 1st Ratoons. Sucrose in Cane per Acre, Tons.	Trial No.
	Pln. Leonora, Field Stewartville "A". Reaped 25.2.58 at 12.00 months. Rainfall :—60.68 inches.								
MEANS OF 5 PLOTS.	B. 49119	55.37	13.15	85.6	7.28	120.93	***B. 41227**	**14.83**	190
	***B. 41227**	**54.01**	**13.46**	**83.8**	**7.27**	**120.76**	B. 49119	14.04	
	D. 133/46	48.44	13.48	86.6	6.53	108.47	D. 133/46	13.71	
	B. 49354	41.79	14.98	86.9	6.26	103.99	Pindar	12.46	
	Pindar	43.03	13.91	87.1	5.99	99.50	B. 5037	12.31	
	B. 49122	46.61	12.51	86.0	5.83	96.84	B. 49122	12.08	
	B. 5037	38.93	14.84	90.8	5.78	96.01	B. 49354	11.98	
	B. 49377	29.88	10.78	75.5	3.22	53.49	B. 49377	8.17	
	Mean :				6.02	100.00			
	Significant Difference; 20 : 1:				.78	12.96			

* **Standard Cane.**

D. SECOND RATOON VARIETY TRIALS.

Twenty-one (21) Variety Trials were reaped as Second Ratoons in 1958, the results of which are presented in Table IV. These experiments are classified according to soil type and locality as follows:—

Soil Type and Locality.	Index Nos. of Trials.	No. of Trials.
Clays — Demerara.	136, 138, 139, 140, 141, 142, 144, 145.	8
Clays — Berbice.	146, 147, 154, 155, 178, 181, 182.	7
Riverside Clay.	153.	1
Pegassy Clay.	148, 149, 150, 151, 152.	5

TABLE IV.—Results of Second Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
	Sophia, Field 13 West "C". Reaped 20.3.58 at 11.75 months. Rainfall :—58.58 inches.								
MEANS OF 5 PLOTS:	***B. 41227**	**41.14**	**15.78**	**91.9**	**6.49**	**161.85**	***B. 41227**	**20.00**	136
	D.M. 53/53	22.58	14.74	88.3	3.33	83.04	D.M. 53/53	13.07	
	D.M. 54/53	15.52	14.26	88.1	2.21	55.11	D.M. 54/53	9.35	
	Mean :				4.01	100.00			
	Significant Difference, 20 : 1 :				1.53	38.15			
	Sophia, Field 8 West "B". Reaped 5. 9. 58 at 12.00 months. Rainfall :—79.35 inches.								
MEANS OF 4 PLOTS:	D. 94/45	47.68	14.98	90.9	7.14	142.51	B. 5121	22.03	138
	D. 127/45	50.82	13.77	86.5	7.00	139.72	B. 51131	20.36	
	B. 5098	50.64	13.59	85.5	6.88	137.33	B. 5098	20.24	
	B. 5121	50.14	13.14	85.5	6.59	131.54	***B. 41227**	**19.48**	
	***B. 41227**	**44.52**	**14.75**	**87.5**	**6.57**	**131.14**	D. 94/45	19.48	
	B. 51131	43.91	14.77	88.9	6.49	129.54	D. 127/45	18.58	
	B. 50155	49.21	12.93	84.0	6.36	126.95	B. 50155	18.07	
	B. 51355	46.23	12.37	81.5	5.72	114.17	B. 46288	16.46	
	B. 46288	40.95	13.90	88.3	5.69	113.57	B. 51355	16.33	
	D. 6/52	34.62	14.67	88.7	5.08	101.40	B. 4995	15.81	
	B. 4995	35.34	14.23	88.5	5.03	100.40	B. 4764	15.56	
	B. 4764	34.22	14.21	87.1	4.86	97.01	D. 6/52	15.14	
	B. 51105	31.31	13.54	84.5	4.24	84.63	B. 51105	14.72	
	M. 134/32	30.65	13.56	85.7	4.16	83.03	M. 134/32	14.04	
	B. 47399	27.43	14.46	86.9	3.97	79.24	B. 51190	13.50	
	B. 51190	23.15	14.63	85.6	3.39	67.66	B. 47399	12.81	
	B. 51167	23.13	13.58	87.1	3.14	62.67	B. 51167	10.22	
	B. 51156	23.06	13.48	81.9	3.11	62.08	B. 51156	9.70	
	B. 5192	17.16	15.03	87.4	2.58	51.50	B. 51259	9.02	
	B. 51259	15.13	14.28	83.2	2.16	43.11	B. 5192	8.65	
	Mean :				5.01	100.00			
	Significant Difference, 20 : 1 :				1.13	22.55			

* Standard Cane.

TABLE IV (Contd.)—Results of Second Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane. per Acre. Tons.	Pol. % Cane	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane, per Acre, Tons.	Trial No.
Sophia, Field 8 East "B". Reaped 30.10.58 at 12.00 months. Rainfall :—79.95 inches.									
MEANS OF 5 PLOTS :	D. 2/46	35.49	16.98	91.6	6.03	159.52	*B. 41227	19.29	139
	*B. 41227	32.74	16.69	90.2	5.46	144.44	D. 2/46	18.70	
	D. 35/52	27.84	15.35	86.2	4.27	112.96	D. 57/52	14.99	
	D. 49/52	26.18	15.58	88.9	4.08	107.94	D. 35/52	14.72	
	D. 57/52	28.90	13.73	88.1	3.97	105.03	D. 11/52	14.10	
	D. 47/52	24.80	15.55	90.1	3.86	102.12	D. 47/52	14.03	
	D. 36/52	25.29	14.34	85.9	3.63	96.03	D. 30/52	13.80	
	D. 19/52	25.05	14.22	86.3	3.56	94.18	D. 49/52	13.53	
	D. 4/52	20.89	16.16	89.1	3.37	89.15	D. 36/52	13.43	
	D. 11/52	21.36	15.80	88.7	3.37	89.15	D. 4/52	13.31	
	D. 6/52	21.17	15.24	87.5	3.22	85.19	D. 40/52	12.84	
	D. 40/52	19.84	15.78	88.6	3.13	82.80	D. 19/52	12.46	
	D. 30/52	19.79	15.70	88.8	3.11	82.28	D. 17/52	11.83	
	D. 34/52	19.74	14.81	86.9	2.92	77.25	D. 6/52	11.72	
	D. 17/52	18.32	14.70	87.8	2.69	71.16	D. 34/52	11.32	
	Mean :				3.78	100.00			
	Significant Difference, 20 : 1 :				.65	17.20			
Sophia, Field 8 East "C". Reaped 31.10.58 at 11.75 months. Rainfall:—80.45 inches.									
MEANS OF 5 PLOTS :	*B. 41227	41.83	15.53	89.6	6.50	108.51	D. 141/46	20.64	140
	D. 141/46	40.35	15.67	90.6	6.32	105.51	*B. 41227	19.31	
	D. 159/45	42.37	14.81	89.4	6.27	104.67	D. 159/45	17.12	
	D. 94/45	37.98	16.15	91.5	6.13	102.34	D. 62/45	16.18	
	D. 62/45	35.26	16.47	90.2	5.81	96.99	D. 94/45	15.66	
	D. 127/45	32.57	15.11	88.4	4.92	82.14	D. 127/45	13.79	
	Mean :				5.99	100.00			
	Significant Difference, 20 : 1 :				.68	11.35			
Sophia, Field 12 West "B". Reaped 6.11.58 at 11.25 months. Rainfall :—79.87 inches.									
MEANS OF 5 PLOTS :	B. 47258	46.90	14.67	87.1	6.88	106.34	B. 49119	21.89	141
	B. 49119	49.91	13.70	85.8	6.84	105.72	B. 47258	20.96	
	Pindar	40.13	15.46	89.0	6.20	95.83	*B. 41227	20.37	
	*B 41227	43.00	13.92	85.1	5.98	92.43	Pindar	20.34	
	Mean :				6.47	100.00			
	Significant Difference, 20 : 1 :				.55	8.50			

* Standard Cane.

TABLE IV (Contd.)—Results of Second Ratoon Variety Trials on Demerara Frontland Clay.

	Variety.	Cane per acre, Tons.	Pol. % Cane	Purity.	Sucrose in Cane per Acre.		Combined results for 3 Crops, Plants, 1st and 2nd Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Sucrose in Cane per acre, Tons.	
	Pln. Enmore, Field V. 27. Reaped 18. 11. 58 at 12.00 months. Rainfall :—54.20 inches.								
MEANS OF 5 PLOTS:	D. 141/46	43.42	15.46	84.3	6.71	122.00	D. 141/46	18.34	142
	D. 49/46	46.19	14.25	83.9	6.58	119.64	***B. 41227**	**17.01**	
	B. 4711	44.60	14.47	80.8	6.45	117.27	D. 49/46	16.93	
	D. 4/43	41.76	14.13	81.6	5.90	107.27	B. 4711	16.37	
	***B. 41227**	**38.62**	**14.64**	**82.6**	**5.65**	**102.73**	Pindar	14.97	
	Pindar	36.76	15.14	84.3	5.57	101.27	D. 4/43	14.95	
	B. 43253	34.73	15.74	87.4	5.46	99.27	B. 43253	14.81	
	P.O.J. 2967	31.13	14.26	82.4	4.44	80.73	B. 45137	13.64	
	P.O.J. 3016	25.49	16.44	86.0	4.19	76.18	P.O.J. 3016	12.01	
	B. 45137	33.11	12.46	78.5	4.02	73.09	P.O.J. 2967	11.78	
	Mean :				5.50	100.00			
	Significant Difference, 20 : 1 :				.55	10.00			
	Pln. Lusignan, Field G.H. 14 E. Reaped 13.10.58 at 13.00 months. Rainfall :—70.29 inches.								
MEANS OF 5 PLOTS:	B. 4214	40.14	16.54	87.7	6.64	116.70	B. 49119	19.53	144
	B. 50135	43.71	14.77	85.6	6.46	113.53	B. 50135	19.38	
	B. 50347	44.00	13.92	83.9	6.12	107.56	B. 50347	18.61	
	***B. 41227**	**37.87**	**15.79**	**85.6**	**5.98**	**105.10**	B. 4214	18.56	
	B. 49119	36.43	16.02	85.6	5.84	102.64	***B. 41227**	**17.50**	
	B. 5098	38.16	14.51	85.6	5.54	97.36	B. 49353	16.96	
	B. 49353	33.49	15.14	84.5	5.07	89.10	B. 5098	16.64	
	P.O.J. 2967	27.94	14.00	85.2	3.91	68.72	P.O.J. 2967	12.82	
	Mean :				5.69	100.00			
	Significant Difference, 20 : 1 :				.72	12.65			
	Pln. Ogle, Field 41 O. Reaped 16.9.58 at 12.00 months. Rainfall :—69.77 inches.								
MEANS OF 5 PLOTS:	B. 5124	36.90	15.24	85.7	5.62	122.17	***B. 41227**	**14.79**	143
	B. 51129	33.36	15.00	84.4	5.00	108.70	B. 5124	14.41	
	***B. 41227**	**35.12**	**13.70**	**83.6**	**4.81**	**104.57**	B. 51129	13.66	
	B. 4995	33.11	13.92	86.1	4.61	100.22	D. 259/46	12.74	
	D. 259/46	34.19	13.30	84.5	4.55	98.91	B. 4995	12.66	
	Pindar	33.31	13.16	82.5	4.38	95.22	B. 5098	12.14	
	B. 5098	33.35	12.57	83.2	4.19	91.09	B. 49257	11.84	
	B. 49257	38.55	9.47	73.7	3.65	79.35	Pindar	11.67	
	Mean :				4.60	100.00			
	Significant Difference, 20 : 1 :				.55	11.96			

*** Standard Cane.**

TABLE IV (Contd.)—**Results of Second Ratoon Variety Trials on Berbice Frontland Clay.**

	Variety.	Cane. per Acre. Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
	Pln. Albion, Field A. 69 W.S. Reaped 16.4.58 at 10.75 months. Rainfall :—67.77 inches.								
ANS OF 5 LOTS :	B. 49119	35.77	14.11	87.6	5.05	119.10	B. 49119	14.34	146
	***B. 41227**	**35.13**	**14.23**	**88.6**	**5.00**	**117.92**	***B. 41227**	**13.89**	
	B. 4995	31.44	13.60	88.8	4.28	100.94	B. 4942	12.25	
	B. 4942	31.06	13.71	87.5	4.26	100.47	B. 4995	11.69	
	B. 49257	36.77	11.10	78.8	4.08	96.23	B. 49257	11.40	
	B. 49353	28.48	13.85	88.4	3.94	92.92	B. 49354	10.95	
	B. 49354	27.04	13.99	87.6	3.78	89.15	B. 49353	10.79	
	B. 4956	30.81	11.56	83.9	3.56	83.96	B. 4956	9.43	
	Mean :				4.24	100.00			
	Significant Difference, 20 : 1 :				.81	19.10			
	Pln. Albion, Field N. 63 W.S. "A". Reaped 16. 12. 58 at 12.75 months. Rainfall :—99.53 inches.								
ANS OF 5 LOTS :	B. 50112	31.50	15.23	89.4	4.80	109.09	B. 50112	16.56	147
	B. 5011	33.31	14.25	84.4	4.72	107.27	B. 49119	16.34	
	B. 49119	31.34	14.90	87.5	4.67	106.14	B. 5037	14.95	
	B. 5037	29.63	15.22	88.2	4.51	102.50	B. 5011	14.55	
	Pindar	30.54	14.66	88.2	4.48	101.82	B. 5028	14.47	
	B. 5028	30.77	14.00	85.9	4.31	97.95	Pindar	14.19	
	***B. 41227**	**27.76**	**15.11**	**88.0**	**4.20**	**95.45**	***B. 41227**	**14.16**	
	D. 184/46	27.57	12.80	83.0	3.53	80.23	D. 184/46	13.01	
	Mean :				4.40	100.00			
	Significant Difference, 20 : 1 :				—	—			
	Pln. Albion, Field N. 63 W.S. "B". Reaped 16. 12. 58 at 12.75 months. Rainfall :—99.53 inches								
NS OF 5 LOTS :	D. 141/46	45.07	15.60	86.4	7.03	111.41	D. 141/46	21.47	178
	B. 50135	45.86	15.05	87.5	6.90	109.35	B. 47258	20.55	
	***B. 41227**	**45.47**	**14.97**	**86.6**	**6.81**	**107.92**	B. 50135	19.95	
	B. 47258	41.29	16.38	89.8	6.76	107.13	***B. 41227**	**19.80**	
	D. 133/46	41.78	14.81	85.3	6.19	98.10	N. Co. 310	19.41	
	N. Co. 310	37.03	16.40	87.9	6.07	96.20	D. 133/46	18.64	
	B. 45137	38.19	14.52	85.9	5.54	87.80	B. 45137	17.03	
	H. 37-1933	37.85	13.70	85.7	5.18	82.09	H. 37-1933	15.33	
	Mean :				6.31	100.00			
	Significant Difference, 20 : 1 :				.98	15.53			

indard Cane.

TABLE IV (Contd.)—Results of Second Ratoon Variety Trials on Berbice Frontland Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
	Pln. Port Mourant, Field P.M.E.1. Reaped 3.12.58 at 13.25 months. Rainfall :—62.62 inches.								
MEANS OF 3 PLOTS :	***B. 41227**	**38.74**	**15.54**	**84.6**	**6.02**	**115.55**	***B. 41227**	**20.34**	181
	B. 47225	36.24	15.19	85.3	5.51	105.76	B. 47225	18.74	
	Trojan	33.27	15.96	86.1	5.31	101.92	B. 37161	18.46	
	H. 37-1933	35.41	14.58	84.3	5.16	99.04	Trojan	17.30	
	Pindar	33.23	14.24	84.9	4.73	90.79	H. 37-1933	17.18	
	B. 37161	33.06	13.74	83.8	4.54	87.14	Pindar	16.53	
	Mean :				5.21	100.00			
	Significant Difference, 20 : 1 :				—	—			
	Pln. Port Mourant, Field John's E. 26. Reaped 5.12.58 at 12.00 months. Rainfall :—42.71 inches.								
MEANS OF 4 PLOTS.	***B. 41227**	**50.56**	**11.68**	**82.6**	**5.90**	**110.07**	***B. 41227**	**18.01**	182
	B. 47225	47.38	11.42	84.6	5.41	100.93	B. 47258	17.73	
	Pindar	45.97	11.50	84.6	5.29	98.69	B. 47225	16.95	
	B. 47258	45.04	11.62	84.9	5.24	97.76	B. 37161	16.92	
	B. 47379	46.54	11.20	83.2	5.21	97.20	B. 47379	16.73	
	B. 37161	43.90	11.58	85.3	5.08	94.78	Pindar	**14.64**	
	Mean :				5.36	100.00			
	Significant Difference, 20 : 1 :				—	—			
	Pln. Port Mourant, Field A.E.W. 43. Reaped 17.12.58 at 12.00 months. Rainfall :—73.55 inches.								
MEANS OF 4 PLOTS.	B. 47258	34.21	12.35	80.6	4.23	112.50	B. 47258	15.05	154
	***B. 41227**	**32.49**	**12.73**	**82.0**	**4.14**	**110.11**	***B. 41227**	**14.03**	
	B. 47225	34.05	12.14	83.0	4.14	110.11	B. 47225	13.49	
	Pindar	31.87	12.13	82.2	3.87	102.93	Pindar	12.77	
	B. 47379	28.53	11.97	81.5	3.42	90.96	B. 37161	12.33	
	B. 37161	25.07	11.04	82.3	2.77	73.67	B. 47379	11.93	
	Mean :				3.76	100.00			
	Significant difference, 20 : 1 :				.72	19.15			

***Standard Cane.**

TABLE IV (Contd.) —**Results of Second Ratoon Variety Trials on Berbice Foreland Clay.**

	Variety.	Cane per Acre, Tons.	Pol. % Cane.	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
Pln. Skeldon, Field 133 B. Section 80. Reaped 7.10.58 at 10.25 months. Rainfall :—66.31 inches.									
MEANS OF 4 PLOTS.	B. 47258	42.42	11.96	83.4	5.07	107.87	*B. 41227	16.22	155
	Eros	40.54	12.18	83.0	4.94	105.11	B. 47258	16.11	
	Pindar	40.99	11.98	82.1	4.91	104.47	Eros	15.55	
	***B. 41227**	**42.60**	**11.20**	**80.8**	**4.77**	**101.49**	B. 37161	15.30	
	Trojan	34.28	13.64	85.7	4.68	99.57	Pindar	14.37	
	H. 37–1933	41.78	10.88	79.9	4.55	96.81	B. 47225	14.35	
	B. 37161	38.36	11.82	83.4	4.53	96.38	Trojan	14.03	
	B. 47225	36.49	11.44	81.2	4.17	88.72	H. 37–1933	13.91	
	Mean :				4.70	100.00			
	Significant Difference, 20 : 1 :				.50	10.64			

Results of a Second Ratoon Variety Trial on Riverside Clay.

Pln. Versailles, Field G.F. "P". Reaped 9.9.58 at 12.00 months. Rainfall : 74.67 inches.

MEANS OF 5 PLOTS :	***B. 41227**	**35.52**	**13.25**	**86.9**	**4.71**	**129.75**	***B. 41227**	**15.22**	153
	B. 4995	32.60	13.06	87.0	4.26	117.36	B. 4995	13.24	
	Pindar	31.36	13.16	87.3	4.13	113.77	Pindar	12.93	
	B. 50267	30.90	11.50	83.5	3.55	97.80	B. 49354	12.56	
	B. 49353	27.68	12.12	84.7	3.35	92.29	B. 50155	12.08	
	B. 50155	27.46	11.97	85.0	3.29	90.63	B. 49353	11.87	
	B. 49354	27.67	11.80	83.8	3.24	89.26	B. 50267	11.16	
	P.O.J. 3016	18.18	13.76	89.4	2.50	68.87	P.O.J. 3016	10.29	
	Mean :				3.63	100.00			
	Significant Difference, 20 : 1 :				.61	16.80			

***Standard Cane.**

TABLE IV (Contd.) —Results of Second Ratoon Variety Trials on Pegassy Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane	Purity.	Sucrose in Cane per Acre. Tons.	Sucrose in Cane per Acre. % Mean.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Variety.	Combined results for 3 Crops, Plants, 1st and 2nd Ratoons. Sucrose in Cane per Acre. Tons.	Trial No.
Pln. Blairmont, Field 15 H.P. Reaped 21.8.58 at 11.25 months. Rainfall :—73.77 inches.									
MEANS OF 5 PLOTS:	B. 4711	40.29	13.63	86.3	5.52	114.52	Pindar	18.06	148
	Pindar	37.59	14.21	89.5	5.34	110.79	***B. 41227**	**17.46**	
	B. 4995	39.64	12.95	88.4	5.13	106.43	B. 4711	17.20	
	***B. 41227**	**37.97**	**13.19**	**86.8**	**5.01**	**103.94**	B. 4995	16.84	
	B. 43253	31.31	15.41	89.5	4.83	100.21	B. 43253	16.13	
	B. 49354	31.80	14.24	87.9	4.53	93.98	B. 49354	15.92	
	B. 49353	29.72	14.70	89.4	4.37	90.66	B. 49353	14.44	
	M. 134/32	29.36	13.12	85.8	3.85	79.88	M. 134/32	13.80	
	Mean :				4.82	100.00			
	Significant Difference, 20 : 1 :				.61	12.66			
Pln. Diamond, Field G.G. 21 E. Reaped 18.3.58 at 12.50 months. Rainfall :—65.72 inches.									
MEANS OF 5 PLOTS:	***B. 41227**	**42.24**	**15.17**	**88.8**	**6.41**	**121.86**	***B. 41227**	**19.99**	149
	Pindar	40.58	15.07	90.5	6.11	116.16	Pindar	19.49	
	M. 213/40	45.17	12.53	84.2	5.66	107.60	B. 4214	18.62	
	B. 49354	36.08	15.47	89.4	5.58	106.08	M. 213/40	17.12	
	B. 43413	37.51	14.18	85.4	5.32	101.14	B. 43413	16.97	
	B. 4214	35.43	14.56	90.5	5.16	98.10	B. 49354	16.73	
	B. 45137	40.49	11.63	82.8	4.71	89.54	B. 45137	16.14	
	B. 4942	31.84	13.69	88.6	4.36	82.89	B. 4942	15.85	
	B. 37161	34.67	11.53	82.5	4.00	76.05	B. 37161	15.30	
	Mean :				5.26	100.00			
	Significant Difference, 20 : 1 :				.87	16.54			
Pln. Diamond, Field 115. Reaped 18.8.58 at 10.75 months. Rainfall :—85.78 inches.									
MEANS OF 5 PLOTS:	B. 47258	49.00	14.97	90.5	7.34	127.87	***B. 41227**	**21.30**	150
	Pindar	47.94	14.50	89.4	6.95	121.08	B. 47258	19.86	
	***B. 41227**	**48.22**	**14.35**	**89.6**	**6.92**	**120.73**	Pindar	19.85	
	D. 4/43	47.33	11.59	79.3	5.48	95.47	B. 45137	17.15	
	B. 37161	37.98	13.84	89.3	5.25	91.46	D. 4/43	16.01	
	B. 45270	40.16	12.89	86.8	5.18	90.24	B. 37161	15.40	
	B. 47399	40.28	12.60	83.0	5.08	88.50	B. 47399	15.28	
	B. 45137	41.73	12.18	81.9	5.08	88.50	B. 45270	15.22	
	P.O.J. 3016	30.46	14.47	91.2	4.41	76.83	P.O.J. 3016	12.89	
	Mean :				5.74	100.00			
	Significant Difference, 20 : 1 :				.87	15.16			

***Standard Cane.**

TABLE IV (Contd.) —Results of Second Ratoon Variety Trials on Pegassy Clay.

	Variety.	Cane per Acre, Tons.	Pol. % Cane	Purity.	Sucrose in Cane per Acre.		Combined results for 3 Crops, Plants, 1st and 2nd Ratoons.		Trial No.
					Tons.	% Mean.	Variety.	Sucrose in Cane per Acre. Tons.	
	Pln. Leonora, Field Ed. 66. Reaped 24. 2. 58 at 11.00 months. Rainfall :—57.27 inches.								
MEANS OF 5 PLOTS :	***B. 41227**	**37.73**	**14.85**	**86.4**	**5.60**	**120.17**	***B. 41227**	**18.50**	151
	D. 141/46	40.46	13.40	87.7	5.45	116.95	D. 141/46	17.21	
	B. 4214	34.55	14.84	90.6	5.13	110.09	B. 4214	16.15	
	B. 46351	32.85	14.46	85.5	4.75	101.93	B. 46351	14.84	
	B. 43413	36.04	13.16	83.9	4.74	101.72	B. 43413	14.62	
	D. 259/46	31.98	13.62	87.6	4.35	93.35	D. 49/46	13.81	
	D. 49/46	36.01	11.88	79.6	4.28	91.85	D. 259/46	13.26	
	B. 43214	29.64	13.40	84.8	3.97	85.19	B. 4942	12.44	
	B. 4942	24.83	14.83	88.7	3.68	78.97	B. 43214	12.34	
	Mean :				4.66	100.00			
	Significant Difference, 20 : 1 :				.92	19.74			
	Pln. Wales, Field Y.R. 36 E. Reaped 17. 9. 58 at 12.25 months. Rainfall :—81.71 inches.								
MEANS OF 5 PLOTS.	D. 141/46	46.97	14.41	87.8	6.77	133.01	D. 141/46	18.70	151
	***B. 41227**	**39.05**	**14.50**	**86.9**	**5.66**	**111.20**	***B. 41227**	**17.05**	
	D. 49/46	42.17	12.83	83.2	5.41	106.29	B. 4711	15.43	
	B. 4711	39.22	13.25	84.1	5.20	102.16	Pindar	14.79	
	Pindar	31.33	15.42	89.4	4.83	94.89	D. 49/46	14.69	
	B. 45270	32.08	14.20	87.5	4.56	89.59	B. 47379	13.28	
	B. 47379	31.79	13.61	87.7	4.33	85.07	B. 45270	13.23	
	P.O.J. 3016	25.65	15.57	90.3	3.99	78.39	P.O.J. 3016	12.19	
	Mean :				5.09	100.00			
	Significant Difference, 20 : 1 :				.61	11.98			

*Standard Cane.

E. VARIETY PERFORMANCE SUMMARY.

Varieties under test in 1958 are discussed under the following captions:—

1. Standard Canes.
2. Barbados and Demerara Seedlings produced prior to the 1947 Series.
3. Barbados Seedlings of the 1947, 1948 and 1949 Series.
4. Barbados Seedlings of the 1950, 1951, 1952 and 1953 Series.
5. Demerara Seedlings.
6. Demerara-Barbados Seedlings.
7. Varieties of Other Countries.

1. Standard Canes.

B.37161, (B.3365 x B.603).

Trial Nos.: 149, 150, 154, 155, 172, 173, 181, 182, 183, 184.

B.41227, (B.35207 x P.O.J.2878).

The performance of these varieties continues to be satisfactory both in trials and on the commercial scale.

It is the general impression that B.37161 is more adapted to a lower rainfall than is B.41227. However, as noted last year (Bulletin No. 26, page 44) it has not been possible to shew any statistically significant effects between rainfall intensity and the relative yields of these two varieties in the trials.

B.41227 continues to give higher average yields than B.37161 in trials*. The mean results to date of all trials in which these standard canes have both been included are presented in Table V.

TABLE V.

Soil Type.	Variety.	Tons Available Pol. per Acre.			Mean Pol. % Cane.
		Plants.	1 R.	2 R.	
Clays	B.41227	6.45 (33)	5.11 (33)	4.49 (28)	12.94 (94)
„	B.37161	5.79 (33)	4.95 (33)	4.15 (28)	12.69 (94)
Pegassy Soils	B.41227	5.60 (9)	5.47 (9)	4.99 (9)	12.91 (27)
„ „	B.37161	5.26 (9)	4.74 (9)	4.14 (9)	13.13 (27)
All Experiments ..	B.41227	6.28 (42)	5.19 (42)	4.61 (37)	12.93 (121)
„ „ ..	B.37161	5.68 (42)	4.91 (42)	4.15 (37)	12.80 (121)

The figures in parentheses indicate the number of trials from which the means are obtained.

* See page 77 for comparisons of yields on the commercial scale.

2. Barbados and Demerara Seedlings produced prior to the 1947 Series.

B.4362, (B.37161 x P.O.J.2878).

The testing of this variety has now been concluded. The trials have shewn that B.4362 is inferior in yield to the standards at all crop cycles. It is however, a good factory cane and possesses the highest Available Pol. % Cane of any variety which can be regarded as a commercial cane in British Guiana at present and this feature is responsible for a small acreage in this variety being retained by many estates.

B.4362 is rated as susceptible-tolerant to leaf scald disease but moderately susceptible to chlorotic streak. In tends to be more heavily attacked by borers than average.

B.43413, (M.D.47 x Co.290).

Trial Nos.: 149, 151, 174.

This variety has now been fully tested against B.41227 and has shewn itself to be a consistent performer against the standard under moderate and high rainfall conditions on clays. It does not stand up well to dry conditions however, and possesses a Pol. % Cane somewhat below that of the standard while its stalks are generally of less than average diameter.

In fourteen reapings as plants, B.43413 has exceeded the yield of the standard on four occasions, once significantly. Of the ten occasions on which it has been beaten by the standard, three were by significant margins. In fourteen reapings as first ratoons, the yields of the standard have been exceeded on three occasions, while on the occasions on which it has been beaten by B.41227 none has been by a significant margin. As second ratoons, B.43413 has exceeded the yield of the standard on five occasions in twelve reapings, two of these being by significant amounts. On the seven occasions on which it has been beaten by B.41227 in this crop cycle, none has been significant.

B.43413 is rated as tolerant to leaf scald disease.

B.45137, (B.38372 x B.34104).

Trial Nos.: 142, 149, 150, 178, 184.

B.45137 has been tested against B.41227 in seventeen trials.

In the seventeen reapings as plants, B.45137 has only twice exceeded B.41227 in yield. On the other hand, in none of the other fifteen occasions on which it was beaten by the standard has the margin been significant although it has approached significance on three occasions, two of which were on pegasse. In the same number of reapings as first ratoons, B.45137 has exceeded the yield of the standard on eight occasions, five of these being by significant amounts. On only one occasion has the margin by which it has been beaten by B.41227 in the other nine reapings proved significant. In fifteen reapings as second ratoons, B.45137 has beaten the standard on six occasions, one of these being by a significant margin. On the nine occasions in which it has been beaten by B.41227 in this cycle, three were by significant amounts, two of those trials being on pegasse and all occurring following a period of dry weather with a very considerable reduction in the Pol. % Cane in this variety.

The trials described have shewn the variety to be a hardy cane when grown under heavy or moderately heavy rainfall but its juice quality, which is generally below average, deteriorates relative to B.41227 still further under dry conditions. B.45137 is a strong ratooner possessing many stalks per stool. These are generally of less than average diameter however.

B.45137 is rated as tolerant to leaf scald disease, but as noted previously the leaves exhibit a leaf spot which has been attributed to a species of Curvalaria.

D.49/46, (D.103/41 x D.200/36).

Trial Nos.: 142, 151, 152, 206.

D.49/46 has been reaped on sixteen occasions as plants. In these tests it has exceeded the yield of B.41227 on five occasions, none significantly, while on the nine occasions on which it has been beaten by the standard, three were by significant margins, two of these being on pegasse. D.49/46 is thus inferior to B.41227 as plants mainly owing to its poor juice quality in this cycle. As ratoons, its Pol. % Cane improves however, becoming of approximately average quality.

It is primarily as a ratooner that D.49/46 shews promise. In fifteen reapings as first ratoons, D.49/46 has beaten B.41227 on eleven occasions, six of these being by significant amounts, while on the four occasions on which it was beaten by the standard in this crop cycle only once (on a pegasse) was the margin significant. In fifteen reapings as second ratoons, D.49/46 has beaten the standard on nine occasions, three of these being by significant margins. On no occasion has the margin by which it was beaten by B.41227 in this cycle been significant.

D.49/46 is a moderately heavy-arrowing variety and for this reason it is primarily an Autumn crop cane. Its stalks are erect and of average diameter but its Available Pol. % Cane is below average.

D.49/46 which is rated as resistant to leaf scald disease, has performed sufficiently well in experiments to justify its trial on a small scale commercially.

D.141/46, (B.34104 x D.49/41).

Trial Nos.: 140, 142, 151, 152, 178, 196, 206.

D.141/46 has been reaped on thirteen occasions as plants, surpassing the yield of B.41227 on six of these, two being by significant amounts. On the seven occasions on which it has been beaten by the standard none has been by a significant margin. In twelve reapings as first ratoons, D.141/46 has beaten B41227 on ten occasions, three significantly. On the two occasions on which it was surpassed by the standard neither were significant. In twelve reapings as second ratoons, D141/46 has beaten the standard on seven occasions, while on the five occasions on which it has been beaten by B.41227 none has been signficant.

From the foregoing summary it is seen that in the trials reaped to date, D.141/46 is at least the equal of B.41227 as plants but is somewhat better in ratoons. However, D.141/46 is a moderately heavy-arrowing variety and there-

fore gives its best performance as an *Autumn* cane. Its stalks are generally somewhat less than average diameter and its juice slightly better than average quality. It is rated as susceptible/tolerant to leaf scald disease but shewed fairly severe leaf scald in one locality during the current year.

From its performance in experiments to date, D.141/46 is worthy of a trial on the commercial scale.

3. Barbados Seedlings of the 1947, 1948 and 1949 Series.

B.47258, (B.39254 x B.34104).

Trial Nos.: 141, 150, 154, 155, 172, 173, 174, 178, 182, 184.

B.47258 continues to give high yields in trials, while its yields on the commercial scale to date are slightly in excess of those of the two standard variety thereby confirming the results of the trials.*

In twenty-one reapings as plants, B.47258 has given an average yield of Available Pol. slightly above that of B.41227. At this crop cycle, B.47258 has beaten the standard on thirteen occasions, six significantly, while in the other eight tests in which the standard has outyielded the variety, three have been by significant margins.

In twenty-one reapings as first ratoons, the standard has been outyielded in sixteen, two being by significant amounts, while in none of the five tests in which B.41227 has beaten B.47258 has the margin approached significance.

The performance of B.47258 as second ratoons has also been satisfactory. In fifteen reapings to date, the variety has beaten the standard on ten occasions, while on no occasion has it been exceeded by the standard by a significant margin.

B.47258 is a consistent performer in trials where it has shewn itself to be a good all round variety which ratoons well and which is equally suited to clay and pegassy soils. In general in trials, B.47258 has given slightly higher yields than B.41227 and also possess a slightly higher Available Pol. % Cane. On the commercial scale, B.47258 has been heavily attacked by aphids in some areas to a degree that would reduce its yields. It also continues to be more heavily attacked by rats than other commercial varieties and heavy baiting in fields of this variety is advocated.

B.47258 is rated as tolerant to leaf scald disease.

B.47379, (B.37161 x B.4098).

Trial Nos.: 152, 154, 182, 183.

This variety has been given a thorough trial but it is quite unable to compete against B.41227.

In eleven reapings as plants, B.47379 has exceeded the yield of B.41227 on two occasions, only one on a heavy pegasse being significant. In the remaining nine trials it has been decisively beaten by B.41227, five being by significant margins.

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* See page 77 for commercial yields in 1958.

In ten trials reaped as first ratoons, B.47379 has not attained the yield of the standard on any occasion while in seven reapings as second ratoons, it has only once beaten the standard but has been outyielded by B.41227 by considerable margins in the other experiments.

B.47379 possesses a poor juice and its poor yields relative to those of B.41227 are largely due to this circumstance.

B.47379 is rated as resistant to leaf scald disease.

B.47419, (P.O.J.2878 x B.34104).

Trial Nos.: 162, 163.

B.47419 was reaped in two experiments in 1958 as first ratoons and in each it exceeded the yield of the standard by a small margin. However, taking all the experiments reaped to date into consideration, the general conclusion regarding this variety remain the same as reported previously and may be summarised as follows.

B.47419 gives moderately high yields which in general are below those of B.41227 particularly as plants. Its yields relative to B.41227 increase as ratoons but nevertheless do not generally equal those of the standard. B.47419 possesses an Available Pol. % Cane which is slightly below average.

B.47419 is rated as being susceptible to leaf scald disease.

B.4942, (B.37161 x B.4098).

Trial Nos.: 146, 149, 151.

The testing of this variety which has now been completed has shewn it to possess a good quality juice but to be unable to compete against B.41227 in yield. This is particularly true as ratoons, its yields relative to those of the standard decreasing steadily with increasing ratoon age.

In eleven reapings as plants, B.4942 has only exceeded the yield of B41227 twice while in the same number of reapings as first and second ratoons only once in each crop cycle has the yield of the standard been exceeded. On the other hand, the standard has frequently exceeded the yield of B.4942 by very wide margins, three as plants six as first ratoons and a similar number as second ratoons being significant.

B.4942 is rated as tolerant to leaf scald disease.

B.4995, (B.34104 x B.4098).

Trial Nos.: 138, 145, 146, 148, 153.

This variety has behaved very similarly to B.4942 in trials with the exception that its juice quality has not been quite as good while its yields as second ratoons relative to the standard have been somewhat better than those of B.4942. The results of ten trials in which this variety was tested against B.41227 have been as follows.

As plants, B.4995 has exceeded the yield of B.41227 on three occasions, none significantly. Of the seven occasions on which it was beaten by the standard, three were by significant margins.

As first and second ratoons, only once as first ratoons and twice as second ratoons has B.4995 beaten B.41227. On the other hand, on two of the nine occasions as first ratoons and four of the eight occasions as second ratoons the standard has beaten B.4995 by significant amounts. The variety is thus inferior to B.41227.

B.4995 is rated as tolerant to leaf scald disease.

B.49119, (B.35218 x B.4098).

Trial Nos.: 135, 141, 146, 147, 162, 163, 179, 180, 185, 190, 211.

B.49119 continues to give high yields in tests and to outyield B.41227 in ratoons.

In fourteen trials as plants, B.49119 gave an average yield approximately equal to that of B.41227. At this crop cycle, the yield of the standard has been exceeded on nine occasions, twice significantly. Of the five occasions on which B.49119 has been beaten by the standard, one was significant.

In thirteen reapings as first ratoons, B.49119 has exceeded the yield of B.41227 on no less than eleven occasions, three being by significant margins, while the two occasions on which the standard beat the variety the margin was negligible. A similar state of affairs pertains to the seven second ratoon reapings where the variety beat the standard on five occasions.

B.49119 possesses well-formed stools with long stems of slightly less than average diameter. The Available Pol. % Cane is approximately average. Unfortunately, this very promising variety is susceptible to leaf scald disease.

B.49353, (B.37161 x P.O.J.2878).

Trial Nos.: 144, 146, 148, 153, 162, 166.

In the preliminary trials, this variety shewed some promise as plants but its subsequent performance in this crop cycle has been erratic while its ratooning ability has been poor. In addition, B.49353 is susceptible to leaf scald disease and its testing has been discontinued.

B.49354, (B.37161 x P.O.J.2878).

Trial Nos.: 146, 148, 149, 153, 190.

B.49354 also shewed some promise as plants but its behaviour was erratic and it failed to give satisfactory yields as ratoons. It possesses a juice of good quality and is rated as being susceptible/tolerant to leaf scald disease.

4. Barbados Seedlings of the 1950, 1951, 1952 and 1953 Series.

B. 5037, (Co. 421 x B. 4098).

Trials Nos.: 147, 190, 201, 202.

B. 5037 is a thin trashy cane which is capable of giving good yields on clays with a moderately heavy rainfall. It is, however, erratic in performance and does not appear to do well in dry weather.

In seven trials as plants, B.5037 has beaten B.41227 on three occasions, none significantly. Of the four occasions on which the standard has surpassed

it, one was by a significant margin. In five reapings as first ratoons, B.41227 has beaten B.5037 on four, once significantly, while in four reapings as second ratoons the yield of the standard has exceeded that of the variety on three. In general, the yields from B.5037 tend to decrease relative to those of B.41227 with increasing ratoon age.

B.5037 possesses a juice somewhat above average quality and the variety is rated as tolerant to leaf scald disease.

B.5098, (B.37161 x B.4098)

Trial Nos.: 138, 144, 145, 162.

B.5098 gives relatively poor yields as plants but the yield of *cane* as ratoons is comparable with that of B.41227. Its juice is of poor quality however, and yields of sugar per acre are in consequence below that of the standard.

B.5098 is rated as tolerant to leaf-scald disease.

B.50112, (B.37161 .x B.4098).

Trials Nos.: 147, 176.

In the three trials in which this variety was reaped it gave as plants, first and second ratoons, yields which were equal to those of B.41227. However, B.50112 has shewn itself to be very susceptible to leaf scald disease and in consequence, further testing of this variety has been discontinued.

B.50135, (B.38212 x B.4098).

Trial Nos.: 144, 176, 178, 202, 212.

This variety is the most promising of the B. 1950 series and has been placed in twelve trials to date. Nine of these have been reaped as plants and except in one experiment on pegasse, it has given yields close to those of the standard (B.41227). Only in the case of the experiment on pegasse has there been any significant difference in yields. A similar state of affairs exists in the seven experiments reaped as first ratoons and in the six reaped as second ratoons. B.50135 therefore appears to date to be a variety giving in general yields that are consistent and in general equal to those of B.41227.

B.50135 is rated as being resistant to leaf scald disease and possesses an Available Pol. % Cane slightly below that of B.41227.

B.50135 appears to be worthy of a limited trial on the commercial scale.

B.50267, (B.37161 x B.4098).

Trial Nos.: 153, 162, 176, 202.

This variety shewed some promise in the sorting trials but subsequent trials have shewn it to be very erratic and not likely to ratoon satisfactorily. Further, its juice quality is very poor and it does not appear suited to dry conditions.

B.50267 is rated resistant to leaf scald disease.

B.50275, (B.37161 x B.4098).

Trial Nos.: 162, 179, 185, 212.

In six trials reaped as plants to date, B.50275 has given heavy tonnages of *cane* of poor quality. In spite of its poor juice quality it has beaten B.41227 on three occasions and given an average yield close to that of the standard at this crop cycle. While the cane quality improves somewhat as ratoons the average yield of sugar in five reapings as first ratoons, and in two as second ratoons, is below that of B.41227.

B.50275 is rated susceptible/tolerant to leaf scald disease.

B.50347, (B.4362 x B.4098).

Trial Nos.: 144, 162, 179, 185, 212.

This variety has consistently given high tonnages of cane as plants, first and second ratoons, but the cane is of poor quality.

In view of its heavy yield of cane, B.50347 has been placed in eleven experiments to date, of which seven have been reaped as plants. In this crop cycle, the yield of Available Pol. per acre relative to B.41227 has been erratic and the average below that of the standard although it has exceeded the yield of B.41227 by a small margin on three occasions. In six reapings as first ratoons, B.50347 has continued to be erratic although the average yield at this cycle to date is approximately the same as that of the standard. In three reapings as second ratoons, B.50347 continued to be very erratic, the average yield at this cycle being below that of the standard.

In spite of its heavy tonnages of cane per acre, B.50347 appears to be too erratic a performer and of too poor quality to become a commercial variety. It is rated as tolerant to leaf scald disease.

B.5124, (Co. 421 x B.4098).

Trial Nos.: 133, 135, 145, 157, 163, 212.

B.5124 has been reaped on six occasions as plants. On only one of these occasions has B.5124 exceeded B.41227 in yield while the margin in this trial was very small. On the other hand, the standard has beaten B.5124 convincingly on the other occasions. In the five reapings as first ratoons, B.5124 has given a higher average yield relative to the standard at this cycle and this improvement has also continued in the three reapings as second ratoons.

This variety has been very erratic in yield of Available Pol. per acre to date, but it has consistently given a juice of somewhat better than average quality and its performance will continue to be kept under observation. B.5124 is rated as susceptible/tolerant to leaf scald disease.

B.51116, (B.4362 x B.34104).

Trial Nos.: 133, 135, 163, 189, 202, 208.

This variety has been reaped on six occasions as plants. On three of these B.51116 has exceeded the yield of the standard (once significantly), while on

the other three occasions on which it was beaten by B.41227 one was by a significant margin. In this cycle to date, B.51116 has given an average yield equal to that of the standard.

In the four reapings as first ratoons to date, B.51116 has been beaten by B.41227 on each occasion but the margins have not been great. In two reapings as second ratoons the yields have been equal to those of the standard.

B.51116 possesses a juice of average quality and is rated as susceptible/tolerant to leaf scald disease.

B.51131, (B.45170 x B.41227).

Trial Nos.: 133, 135, 138, 163, 202, 204, 206, 208, 212.

B.51131 has been reaped on nine occasions as plants, in four of which it has exceeded B.41227 in yield, once significantly. Of the five occasions on which it was beaten by B.41227 none has been by a significant margin.

In four reapings as first ratoons, two have exceeded and two have been below the yield of the standard, the differences on no occasion having been significant.

Three trials have been reaped as second ratoons to date and in each B.51131 has been beaten by the standard, once significantly.

B.51131 shows some promise but more reapings, particularly as ratoons, are necessary to arrive at any conclusions regarding the commercial possibilities of this variety. It does not appear to do well under dry conditions.

B.51131 possesses an Available Pol. % Cane somewhat above that of B.41227 and is rated as resistant to leaf scald disease.

B.5277, (B.37161 x B.42231).

Trial Nos.: 156, 169, 196, 211.

In the two sorting trials and the first two formal trials, B.5277 shewed some promise as plants. In the two reapings as first ratoons to date, the yields have only been moderate. However, this variety has been placed in further trials for its evaluation under a wider range of conditions.

B.52144, (B.37161 x B.4098).

Trial Nos.: 156, 170, 196, 205.

B.52144 has given fairly good yields of cane in four reapings as plants but the juice has been of poor quality. However, it appears to be a good ratooner and in two reapings as first ratoons it has equalled the standard in yield and its future performance both in trials and in the nursery will be watched.

B.52158, (B.37161 x B.41227).

Trial Nos.: 156, 169, 196.

This variety performed very poorly as plants in the sorting trial on pegasse, but in the sorting trial and one formal trial at the Experiment Station

it gave good yields although its juice quality was below average. In the two reapings as first ratoons on the Sophia clays its performance has been approximately average and B.52158 has been placed in a number of trials for further evaluation.

B.52316, (Co. 421 x B.41227).

Trial No. : 156.

This variety came along slowly at the Quarantine Station and in the nursery at Sophia but in the sorting trial at Sophia it gave approximately average yields as plants and first ratoons and is being extended for further trials.

The seedlings of the B. 1953 series have only been reaped in a few trials as plants and there is insufficient data to allow of making any useful comments on them at present. From these plant cane reapings the most promising appear to be, **B.53200, B.53218, B.53227** and **B.53348.**

5. Demerara Seedlings.

D. 1952 Series. Eight seedlings of this series are under trial, namely **D.8/52, D.11/52, D.13/52, D.18/52, D.26/52, D.30/52, D.40/52,** and **D.44/52.**

All of these seedlings shewed promise as plants but have not come up to expectations as first ratoons and more data is required before any discussion on them is warranted.

D. 1954 Series. Five varieties have been selected for trial from this series, all being from the cross Diamond 10 x D.62/43. One plant cane trial of each has been reaped to date but further tests are necessary before any opinions can be formed.

D. 1955 Series. One sorting trial containing twenty-one seedlings of this series is scheduled for reaping in the Spring of 1959. Selections for formal trials will be made on the basis of the results of this trial and on the performance of the seedlings in the nurseries.

6. Demerara-Barbados Seedlings.

D.B. 1953 Series. Four sorting trials of this series have been reaped as plants and as first ratoons. Only two varieties of this series shewed any promise as plants, namely, **D.B. 169/53** and **D.B. 255/53** and these have been included in a number of formal trials. On the basis of first ratoon performance in the sorting trials, **D.B. 85/53, D.B. 172/53** and **D.B. 205/53** are also being further tested. Of these, D.B. 85/53 gives very heavy tonnages of cane but its juices have been very poor, particularly as plants.

D.B. 1954 Series. Three sorting trials of this series have been reaped as plants in 1958 and on the basis of the plant cane results, eleven seedlings have been selected for formal trials.

D.B. 1955 Series. Three sorting trials containing seedlings of this series are scheduled for reaping in 1959.

7. Varieties of Other Countries.

As noted in the previous Bulletin, several major varieties of other cane-growing areas are under test. Of these, only Pindar appears to date to approach the commercial canes bred in the British Caribbean territories. The results obtained to date where sufficient data have been obtained to warrant presentation, are given in Table VI.

TABLE VI.

Variety	Tons Pol. per Acre Index. (B.41227=100).			Available Pol. % Cane Index. B.41227=100).
	Plants.	1. R.	2. R.	
M.213/40	90 (7)	85 (6)	86 (6)	92
M.134/32	75 (6)	64 (5)	58 (5)	92
M.423/41	77 (7)	67 (6)	56 (6)	88
P.O.J.3016	74 (10)	69 (10)	60 (9)	103
P.O.J.2967	62 (6)	64 (6)	52 (5)	95
Pindar	89 (22)	90 (22)	95 (14)	102
Trojan	81 (9)	81 (8)	93 (2)	101
Q.28	65 (5)	56 (4)	—	95
H.37-1933	75 (5)	67 (5)	85 (3)	90
H.38-2915	96 (4)	86 (2)	—	94
H.38-4443	66 (5)	61 (2)	—	77
H.39-3633	79 (7)	78 (2)	—	86
H.39-5803	83 (4)	68 (2)	—	100
H.39-7028	90 (4)	85 (2)	—	94
H.44-3098	82 (5)	75 (2)	—	87
Co.413	82 (6)	77 (5)	—	88
N.Co.330	85 (7)	84 (7)	—	97
Pepecuca	72 (5)	81 (5)	—	101
P.R.1000	62 (4)	55 (2)	—	88

Pindar.

Trial Nos.: 141, 142, 145, 147, 148, 149, 150, 152, 153, 154, 155, 162, 163, 174, 179, 181, 182, 183, 184, 185, 190.

Pindar has been reaped in twenty-two trials as plants. In these, it has outyielded B.41227 on three occasions, none significantly, and equalled it on another three occasions. Of the sixteen occasions on which B.41227 has outyielded Pindar, eight were by significant amounts. Pindar is therefore definitely inferior to B.41227 in the plant cane cycle.

In the twenty-two reapings as first ratoons, Pindar has outyielded B.41227 on three occasions but by very small amounts, while of the remaining nineteen reapings in this cycle in which B.41227 has outyielded Pindar, eight were by significant margins. Pindar is therefore also inferior to B.41227 as a first ratoon.

In fourteen reapings to date as second ratoons, all except one being in 1958, Pindar has approached the yield of B.41227 more closely. This is probably due to the lower than average rainfall of 1958 as Pindar appears more adapted to these conditions than is B.41227. It should also be noted that under these conditions its juice quality relative to that of the standard has also markedly improved.

As second ratoons, Pindar has beaten B.41227 in yield in four of the fourteen trials reaped, none by significant margins. B.41227 has beaten Pindar on nine occasions, once significantly, while yields have been equal on one occasion.

Pindar arrows heavily in the Autumn. It possesses a juice of average quality under normal rainfall conditions in British Guiana but under drier conditions its juice quality appears to improve more markedly than does that of the commercial standards.

Pindar is rated as susceptible/tolerant to leaf scald disease.

Trojan.

Trial Nos.: 155, 164, 171, 174, 177, 181, 183, 186, 200.

Trojan has been reaped in nine trials as plants in none of which it attained the yield of the standard, B.41227. In eight reapings as first ratoons, it exceeded the yield of the standard in two and in two trials as second ratoons the yield of the standard was attained in one. In most of the experiments in which Trojan was outyielded by B.41227 the margin was considerable. Trojan has shewn itself to be an erratic performer and one which cannot compete against B.41227 in British Guiana.

Trojan in general possesses a juice of average quality although in two trials its juice has been exceptionally good. It is rated as very susceptible to leaf scald disease.

H.38—2915.

Trials Nos.: 157, 188, 202, 206.

This Hawaiian variety has given quite promising yields in the four reapings as plant canes to date but it does not appear to be a satisfactory ratooner and in common with most of the other Hawaiian varieties under test, its juice quality is poor.

H.38—2915 is rated as susceptible to leaf scald disease.

H.39—7028.

Trial Nos.: 157, 177, 202, 209.

H.39—7028 has given fair yields in four trials reaped as plants but its yields tend to fall relative to the standard (B.41227) on ratooning. Its juice quality is poor and it is rated as susceptible to leaf scald disease.

H.44—3098.

Trial Nos.: 157, 201, 202, 208, 209.

This variety gave yields approaching those of B.41227 in two plant cane reapings in which the rainfall was approximately average but in three other plant cane reapings under drier conditions its yields were poor. In the single first ratoon trial reaped to date, the yield of H.44—3098 fell considerably relative to that of the standard and the indications are that it is unlikely to give good yields on ratooning.

H.44—3098 is rated susceptible/tolerant to leaf scald disease.

H.37—1933.

Trial Nos.: 155, 157, 178, 181, 188.

This is a most attractive cane particularly during the first six to seven months of growth. The rate of cane formation thereafter does not come up to expectations and yields are in consequence disappointingly low. As a ratooner, yields are very erratic and in general very disappointing. Its juice quality is uniformly poor.

H.37—1933 is rated as susceptible to leaf scald disease.

F. GENERAL SUMMARY AND RECOMMENDATIONS.

The cane variety experiments reaped in 1958 do not result in any marked change in the variety position outlined last year. The two standard canes, B.41227 and B.37161, remain very difficult canes to surpass and from the yield aspect, only B.49119, B.47258 and D.141/46 can be regarded as rivals. However, none of these can be regarded as satisfying commercial requirements, since B.49119 is rated as susceptible to leaf scald disease, B.47258 while a high yielder is often heavily attacked by rats and aphids, and D.141/46 is primarily an Autumn crop cane.

In trials, B.47258 continues to be a somewhat higher-yielding variety than the standards and the estates returns for 1957 and 1958 confirm that this conclusion is equally applicable to yields on the estates. However, unless fields which are planted in B.47258 are heavily baited for rat control, the losses when this variety is planted on a large scale may be considerable.

Certain varieties other than the foregoing nevertheless have a part to play and may well be considered for conditions to which they are better suited than the standards. Thus, D.37/45 seems well adapted to the silty clays and B.45137 to many poor soils on which the standards do not do well.

The performance of the more promising and outstanding varieties under test are compared with B.41227 in Table VII. The comparisons are on the basis of yields of Available Pol. per Acre relative to B.41227 which is rated as 100. Available Pol. % Cane, ratings are compared similarly.

On the basis of the results obtained from the trials and from observations of the behaviour of varieties in estates cultivations, the following general recommendations are made.

Cane Variety.	Frontland Clay.		Riverside Clay.	Pagasse.
	Berbice.	Demerara.		
B.41227	55	55	55	55
B.37161	25	25	25	25
B.47258	15	15	15	15
D.141/46 B.4362 B.45137 D.37/45	5	5	5	5

The figures given refer to the percentage of the area in the particular soil type recommended to be planted in the respective varieties.

These recommendations may be modified in accordance with the results from trials to be reaped in the future. Where conditions on certain estates appear to favour a particular variety more than another the management will necessarily be guided by local experience.

TABLE VII.— The more Outstanding Varieties Compared with B.41227.

Variety.	No. of Comparisons.			Available Pol. Per Acre Index. (B. 41227=100).			Tons. Available Pol. per Acre. (B.41227=100).			Available Pol. % Cane Index. (B.41227=100). Mean All Cycles.
	P.	1. R	2 R.	P.	1. R	2 R.	P.	1 R.	2 R.	
D. 141/46	13	12	12	105	108	109	6.74	5.81	5.18	104
B. 49119	14	13	7	101	111	106	6.48	5.97	5.06	101
B. 47258	21	21	15	103	107	102	6.61	5.76	4.86	102
***B. 41227**	—	—	—	**100**	**100**	**100**	**6.42**	**5.38**	**4.76**	**100**
D. 49/46	16	15	15	90	106	105	5.78	5.70	5.00	95
D. 37/45	18	18	18	93	100	101	5.97	5.38	4.81	101
B. 43413	14	14	12	96	94	100	6.16	5.06	4.76	98
B. 45137	17	17	15	92	101	95	5.91	5.43	4.52	96
B. 47419	11	10	3	94	95	97	6.03	5.11	4.62	99
D. 158/41	12	12	10	98	91	91	6.29	4.90	4.33	93
B. 37161	42	42	36	91	96	92	5.84	5.16	4.38	100
B. 4362	15	15	15	93	95	90	5.97	5.11	4.28	108
B. 46378	18	18	18	94	89	95	6.03	4.79	4.52	97
B. 47225	18	18	16	95	90	90	6.10	4.84	4.28	101
D. 58/43	6	6	6	92	91	92	5.91	4.90	4.38	92
D. 4/43	13	13	13	90	93	92	5.78	5.00	4.38	95
Pindar	22	22	14	89	90	95	5.71	4.84	4.52	102
B. 4098	17	17	15	96	88	82	6.16	4.73	3.90	101
B. 4995	10	10	10	92	88	87	5.91	4.73	4.14	101
D. 54/43	10	10	10	88	90	87	5.65	4.84	4.14	90
B. 46351	15	15	15	87	92	85	5.59	4.95	4.05	96
B. 4942	11	11	11	94	86	79	6.03	4.63	3.76	104
B. 4744	13	13	11	86	92	81	5.52	4.95	3.86	98
B. 47379	11	10	7	87	88	80	5.59	4.73	3.81	90
B. 4373	16	15	12	85	89	80	5.46	4.79	3.81	92
B. 43253	10	10	10	80	88	86	5.14	4.73	4.09	107
B. 34104	25	23	16	86	82	83	5.52	4.41	3.95	99

* Standard Cane.

2. GROWTH AND RIPENING STUDIES OF THE CANE VARIETIES B.41227, B.37161, D.158/41 AND D.37/45.

IV. THIRD RATOON CYCLE.

BY

L. S. BIRKETT, C. CAMERON and H. GOMES.

The climatic conditions that prevailed during 1958 while drier than usual were not quite as dry as those of the preceding year.

The third ratoon results are presented in Tables I, II and III, while for more readily following the trends the main data are presented graphically in Figure I.

DISCUSSION OF RESULTS.

1. SOPHIA 7 E.

TABLE I.

Age in Months.	Tons 96° Sugar per Acre.				Pol. % Cane.			
	B. 41227	B. 37161	D. 37/45	D. 158/41	B. 41227	B. 37161	D. 37/45	D. 158/41
9 Months ..	3.88	3.35	3.60	2.80	15.16	15.62	14.87	15.14
0 „ ..	3.62	3.72	4.08	2.82	14.59	14.75	15.60	14.91
2 „ ..	4.06	4.09	4.29	3.91	15.49	14.83	15.39	15.49
3 „ ..	4.58	4.06	4.37	4.33	15.47	14.51	15.55	15.10
5 „ ..	4.54	5.22	5.41	4.61	15.60	15.09	16.01	15.59

This experiment was reaped on 3rd December, 1957, during and following a period of very dry weather. In the absence of any heavy rains during the ripening stages, the general tendency for the tons 96° sugar per acre to increase with increase in age up to fourteen to fifteen months age is to be noted. Pol. % Cane figures shew a similar trend although there are some fluctuations which may be due to the effect of arrowing on the sampling. Under the climatic conditions that obtained, there is a less marked increase in the Pol. % Cane figures during ripening than is customary.

In this experiment, only B.41227 failed to arrow. Counts of millable stalks showed 3% of those of B.37161 to have arrowed at nine months age, 13% at ten months, 21% at twelve months and a similar percentage at thirteen months. The corresponding percentages for D.37/45 were : 39% at nine months; 72% at ten months; 73% at twelve months and 68% at thirteen months. For D.158/41, the percentages were : 82% at nine months; 87% at ten months; 97% at twelve months and 93% at thirteen months.

Owing to the tangled condition of the cane at fifteen months age, and to the fact that in some cases, some of the tops had fallen off, reliable counts were not possible at fifteen months age.

Analysis of arrowed and non-arrowed canes at the various ages showed that at all reaping ages the arrowed canes possessed a higher Pol. % Cane than the non-arrowed.

In this experiment the highest yield was attained by D.37/45 which maintained this position at almost each reaping age, confirming its suitability as an Autumn cane on this soil type.

2. SOPHIA 13 E.

TABLE II.

Age in Months.	Tons 96° Sugar per Acre.				Pol. % Cane.			
	B. 41227	B. 37161	D. 37/45	D. 158/41	B. 41227	B. 37161	D. 37/45	D. 158/41
9 Months. ..	3.71	2.71	3.23	3.24	13.84	13.06	12.53	11.65
10 „ ..	3.78	3.03	3.52	3.10	14.66	13.44	13.21	12.83
11 „ ..	4.33	3.32	3.68	3.11	14.36	12.31	12.53	12.59
12 „ ..	4.66	4.32	4.32	3.58	14.35	13.73	12.71	12.78
13 „ ..	4.97	4.21	4.64	3.66	13.53	12.92	12.97	12.83

This experiment was reaped in March 1958. The rainfall for December 1957 was good although a little below average but that of January, February and March was low.

In this experiment, B.41227 was the only variety that did not arrow. This variety continued to give increases in yield with increasing age up to thirteen months. The Pol. % Cane attained its maximum at ten months age with little change at eleven and twelve months but there was a fall at thirteen months age. In this experiment, B.41227 outyielded the other varieties at all ages.

B.37161 commenced to arrow at eleven months age at which age the arrowed canes possessed a higher Pol. % Cane than the non-arrowed. At twelve and thirteen months age the reverse was the case.

Apart from a slight fall at thirteen months age, B.37161 gave increasing yields with increase in age from nine months onwards.

D.37/45 commenced to arrow at ten months age. The arrowed canes possessed a higher Pol. % Cane than the non-arrowed at ten and eleven months but the reverse was the case at twelve and thirteen months age.

D.158/41 arrowed early and uniformly at nine months. Yields remained static between nine and eleven months age with small increases occurring thereafter. There was little change in the Pol. % Cane figures between the ages of ten to thirteen months. At all ages the arrowed stalks possessed a higher Pol. % Cane than the non-arrowed.

3. SOPHIA 4 E.

TABLE III.

Age in Months.	Tons 96° Sugar per Acre.				Pol. % Cane.			
	B. 41227	B. 37161	D. 37/45	D. 158/41	B. 41227	B. 37161	D. 37/45	D. 158/41
9 Months ..	3.40	2.86	4.37	3.79	12.87	12.94	12.98	11.90
11 „ ..	3.79	3.21	4.71	3.66	12.86	12.40	12.83	12.43
12 „ ..	3.92	3.21	4.10	3.98	13.90	13.87	14.02	13.10
13 „ ..	4.17	3.70	5.53	5.32	13.27	13.86	14.62	13.68
15 „ ..	4.41	4.49	4.21	5.10	13.75	13.60	13.75	13.58

This experiment was reaped in the first week of August, 1957, following the usual mid-year rainy season which was peculiar in that the rainfall for May was less than half the normal for that month while that of June was seventeen per cent. higher than normal and that of July only twenty-nine per cent. of the normal. The effect of this relatively low mid-year rainy season with a very sharp peak in June affected the four varieties very differently and this appears to be related to the time and degree of arrowing of the varieties.

B.41227 did not arrow in this experiment and its yields and Pol. % Cane steadily increased with increase in age of cane although the incremental gains were relatively small.

B.37161 arrowed at fourteen months age and its yield curve followed that of B.41227 as did that of the Pol. % Cane except for a slight fall at fifteen months age.

D.37/45 arrowed at thirteen months age and the maximum yield and Pol. % Cane occurred at this age, both then falling appreciably at fifteen months age.

At thirteen months age, the arrowed canes gave a higher Pol. % Cane than the non-arrowed but at fifteen months there was an appreciable reversal in this respect.

D.158/41 arrowed at twelve and a half months age. The maximum yield for this variety was attained at thirteen months age. At this age the arrowed canes gave a slightly higher Pol. % Cane than the non-arrowed. At fifteen months age, there was a slight fall in yield and in Pol. % Cane which was probably due to some slight deterioration of the arrowed canes which at this age gave a slightly lower Pol. % Cane than the non-arrowed stalks.

SUMMARY.

These studies on the growth and ripening of the four type varieties, B.41227, B.37161, D.37/45 and D.158/41 have yielded much useful information which it is difficult to summarise. It is apparent, however, that more data are required fully to explain certain phenomena. In particular, it

would be desirable to obtain yield data at more frequent age intervals and it is also apparent that individual stool and stalk histories should be available in order to explain the yield and quality changes that occur with variation in age, arrowing, and rainfall, and which appear at times to be unduly large over relatively short time intervals. In addition, more analytical data are required, particularly of the transference of sugars as between old and young stalks and between stalks and the rhizome systems, particularly when heavy rainfall produces renewed growth.

These studies have also shewn that the number of inter-relationships between the crop and its environment are so numerous and complex that a complete answer would involve a large number of experiments so as to cover a wide range of conditions. Certain general conclusions may however be drawn from these experiments as follows.

Cane varieties differ in the manner in which they respond to climatic and other conditions. These differences are due to certain inherent individual characteristics peculiar to each variety.

Factors which influence the yield of a given commercial variety, are :

(i) The age of the cane at time of reaping.

(ii) The variability in the relative number and growth rates of the various categories of stalks — primaries, secondaries, etc.

(iii) The age at which arrowing occurs and its degree.

(iv) The rapidity with which growth decreases or is renewed. (This can vary appreciably from variety to variety).

Referring to the four varieties more specifically, it may be noted that the three experiments were designed to cover a reaping period extending from January to June (So. 13 E.); from April to October (So. 4 E.) and from October to April (So. 7 E.). Accordingly the behaviour of the varieties relative to each other varied with time of year and depended largely on how the various factors of rainfall, age and arrowing varied in relation to each other.

In so far as yield is concerned, B.41227 gives the highest yields most consistently and is only exceeded in this respect by D.37/45 as an Autumn Cane, particularly at ages in excess of thirteen months age.

B.41227 rarely arrows and on the one occasion that it did so this was to a negligible degree.

The general tendency is for the yield of B.41227 to increase with increase in age up to fourteen to fifteen months in the absence of heavy rainfall or drought, the yield curve tending to flatten out however, from thirteen months age. Heavy rainfall produces a fall in yield while drought greatly accentuates ripening in this variety thereby reducing the age of maximum yield. The fall in yield resulting from heavy rainfall appears to take place more slowly in B.41227 than in the other three varieties, but so also does the tendency for the renewal of sucrose storage when ripening conditions return.

B.37161 arrows to a moderate degree and relatively late. In the absence of arrowing and heavy rainfall, it appears to attain its maximum yield at twelve to thirteen months age. It is however, very sensitive to rainfall (particularly if arrowing has taken place), and juice quality and yields fall rapidly if heavy showers prevail. For this reason it is desirable that B.37161 be reaped early if heavy showers occur or are to be expected.

D.37/45 arrows early and heavily but its arrowing is not uniform. The behaviour of this variety is typical of the canes of this type in British Guiana in that it is very sensitive to rainfall when arrowing has occurred and yields and quality are markedly reduced if heavy rains follow arrowing although it is true that the yield curve can be very erratic and depends both on the intensity of the rains, the period of their duration, the age of the cane at the time, and on the degree of arrowing.

If heavy rains occur when the cane is from ten to twelve months old and these rains are of relatively short duration, a rapid fall or a static condition may result in respect to yield for one or two months, followed by a rapid increase in yield thereafter which is particularly marked if the rains are followed by a definitely dry period. Indeed, D.37/45 is the only one of the four varieties in which a definitely higher yield may be expected at fifteen months under these conditions.

D.158/41 is a heavy-arrowing variety which unlike most such varieties in British Guiana maintains its juice quality reasonably satisfactorily during heavy rains and resumes ripening with dry weather. Its singular behaviour amongst arrowing varieties in this respect, is probably due to the fact that this variety grows very uniformly and when arrowing does occur, this takes place in almost 100 per cent of the stalks, while the new tillers grow more slowly and regularly than do those of the other varieties. In addition, unlike D.37/45 and B.37161, the tops of which rot and fall when rainy weather follows arrowing, the arrowed stalks of this variety send out shoots from the top buds which tend to keep the arrowed stalks alive longer and this is probably responsible for a lower rate of deterioration of these stalks.

Other aspects of these studies that appear worthy of notice are as follows:

1. **Arrowing.** It is the general impression that once a cane has arrowed, deterioration immediately follows this occurrence. However, these experiments have shewn that if *normal ripening weather* prevails following arrowing, arrowed canes continue to increase in sucrose content for a considerable time without any loss in weight necessarily occurring. On the other hand, if rainy conditions occur, it is the general rule that the arrowed canes deteriorate more rapidly than do non-arrowed canes, but different varieties may shew considerable differences in the rate of such deterioration.

2. **Peaks on Yield Curves.** When the data from these experiments are plotted in the form of yield curves, it will be observed that in many cases two yield peaks occur over a fifteen month period of growth. In the case of the arrowing varieties, the first peak usually occurs where these arrow at from nine to twelve months age and is usually followed by a fall in the yield curve, the

degree of fall depending on climatic and varietal factors. In the cases of B.37161 and D.37/45 particularly, the fall in yield is usually appreciable where heavy rain immediately follows arrowing.

An arrowed stalk is no longer capable of further growth and when the first yield peak occurs at time of arrowing or just after, it represents the results of a high percentage of the primary stalks attaining maturity as is indicated by their arrowing. The subsequent decrease in yield which usually follows—particularly if heavy rains occur—is to be attributed to the stored sucrose of the matured stalks being used for the rapid growth of the immature ones at a greater speed than new sucrose is being synthesised *and stored.* Eventually however, the rate of synthesis and storage by the growing stalk population usually again overtakes the rate of consumption of sucrose from the matured stalks and the yield curve again rises. If growth conditions are favourable, the second yield peak may occur comparatively rapidly and represents the point of maturity of a majority of the secondary stalks.

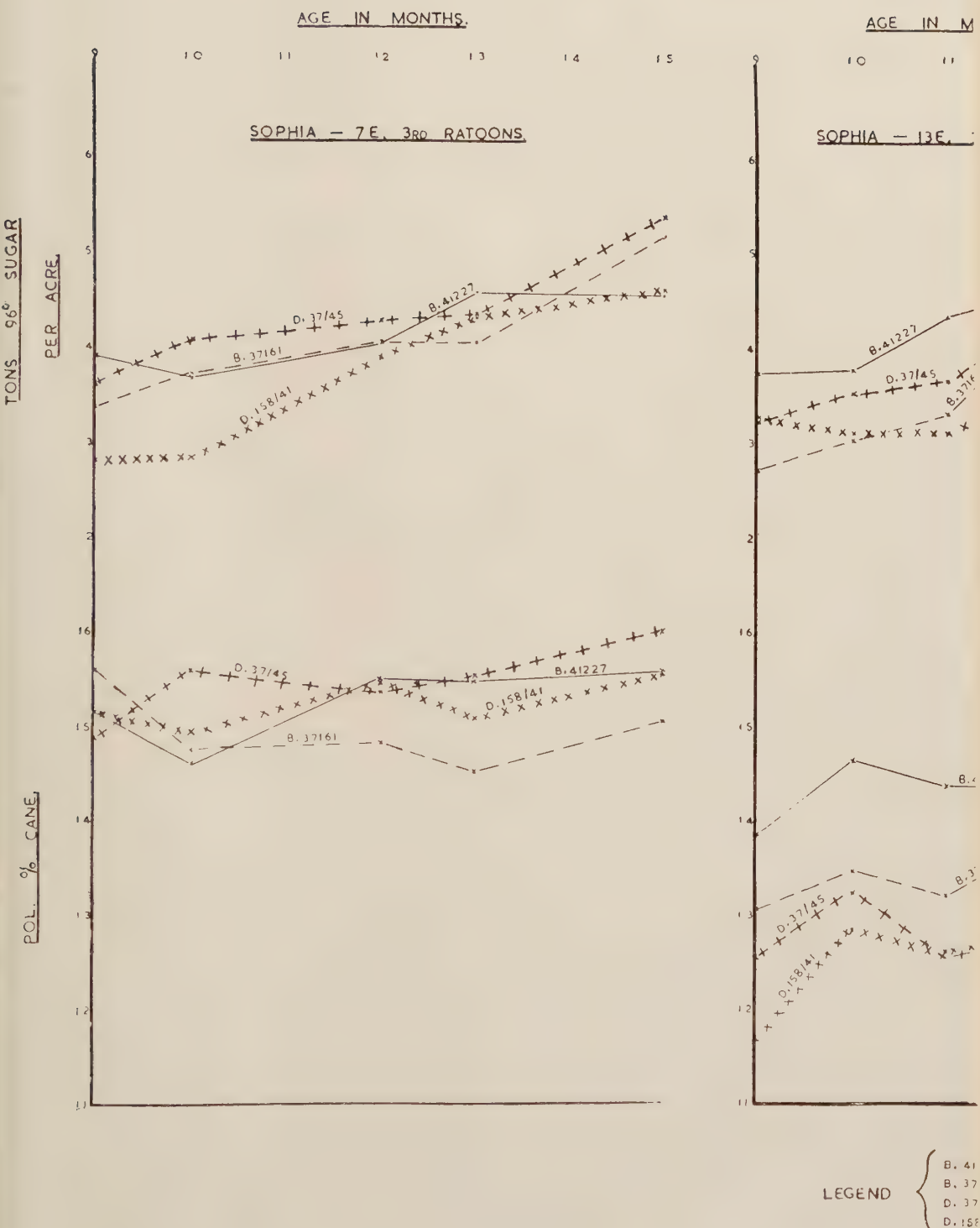
The stalks of non-arrowing varieties, such as B.41227, (or of normally arrowing varieties which have not received the requisite combination of essential factors for arrows to be formed), also attain a point of physiological maturity. The behaviour of such stalks appears to be similar to that of arrowed stalks with corresponding effects in so far as the yield curve is concerned. In such cases, the first peak in the yield curve corresponds to the attainment of physiological maturity in a majority of the primary stalk population. The second peak in non-arrowing varieties would correspond to a similar state of affairs in the secondary stalk population.

It follows from the foregoing that the nature of the yield curve will depend not only on the climatic conditions and varietal factors controlling length of growth of individual stalks prior to these attaining maturity, but also on the uniformity in the development and maturity of primary and secondary stalks.

3. **Relationship between Pol. % Cane and Yield.** From inspection of the Pol. % Cane data and that for yields, it appears from these series of experiments that in general there is a fairly close relationship between the increase in the Pol. % Cane and the increase in yield of sugar per acre for the period of growth up to the first yield peak. The relationship between these two measurements is not necessarily high however, once the first yield peak has been reached. The problem of determining the stage of optimum yield from Pol. % Cane data is particularly difficult when showery conditions prevail.

Under the climatic conditions that prevail in British Guiana, the desirability of awaiting a higher yield at the second yield peak will probably not be a sound economic proposition since there is usually a considerable fall in cane quality at this stage which would increase transportation and factory costs per ton of sugar while the time taken for the attainment of the second yield peak would reduce the rate of turn-over of land.

FIGURE


AGE IN MONTHS.
10
11
12
13
14
15
SOPHIA — 7E, 3RD RATOONS.
TONS 96° SUGAR PER ACRE.
POL. % CANE.
D. 37/45
B. 37161
B. 41227
D. 158/41
SOPHIA — 13E.
LEGEND
B. 41
B. 37
D. 37
D. 158

I.

ONTHS.

12 13

RD RATOONS.

D.158/41

1227

101

227 ———

61 — — — —

145 + + + +

141 × × × ×

AGE IN MONTHS.

10 11 12 13 14 15

SOPHIA — 4E. 3RD RATOONS.

D.37/45

D.158/41

B.41227

B.37161

6 5 4 3 2 16 15 14 13 12 11

3. FERTILIZER EXPERIMENTS, 1958.

BY

L. S. BIRKETT AND C. CAMERON.

The fertilizer experiments reaped in 1958 consisted of three experiments on liming, two experiments to test the relative values of different forms of phosphate, and two experiments to determine whether different cane varieties possess different nitrogen requirements.

(i). LIMING EXPERIMENTS.

Of the three experiments on liming reaped in 1958, one was first ratoons and two were second ratoons. In each experiment all plots received 141 lbs. of nitrogen per acre. No limestone was applied, the rates referred to being those applied to the plant cane cycle, namely, 0, 3, 6 and 9 tons of limestone per acre. In two of the experiments (So. 1 W. and So. 8 E.), the availability of soil phosphate resulting from liming is compared with applications of single calcium superphosphate at the rate of 6 cwt. per acre, (i), from a single application made to the plant cane crop (P_6) and (ii), continued annual applications at this rate (P_6R).

YIELD DATA.

The yields of 96° sugar per acre for the various treatments in the three experiments reaped in 1958 are presented in Table I. The leaf and juice analyses are presented in Table II.

DISCUSSION OF RESULTS.

Sophia, 1 W. First Ratoons, B.41227. Soil Type: Blairmont Clay.

The increase in yield from increase in the rate of application of limestone is not as regular as in the plant cane crop but an upward trend is nevertheless apparent although the increases are not statistically significant.

Leaf analyses shew the levels of nitrogen and of phosphate to be satisfactory while the potash is somewhat below the accepted critical level. Liming has not increased the lime or potash in the leaf. These results for the phosphate and potash follow those of the plant cane crop. Juice phosphate levels are high.

These data confirm the previous conclusions that any benefits attributable to liming cannot be due to its effect in increasing the uptake of phosphate or of potash, unless potash uptake is improved at later stages in the growth cycle than the sampling age adopted.

Sophia, 8 W. Second Ratoons, B.41227. Soil Type: Blairmont Clay.

The yield increase from liming is statistically significant in this cycle, a result which was not obtained in the two previous crops although liming did produce yield increases.

TABLE I.

EXPERIMENTS ON LIMING, 1958.

Experiment.	Soil Type.	Cane Variety.	Cycle	TONS 96° SUGAR PER ACRE.					
				Control.	L3.	L6.	L9.	P6.	P6 R.
Sophia — 1 W.	Blairmont Clay.	B.41227	1 R.	5.25	5.42	5.56	5.36	5.67	5.55
Sophia — 8 W.	Blairmont Clay.	B.41227	2 R.	4.93	6.36	6.48	6.54	—	—
Sophia — 8 E.	Blairmont Clay.	B.41227	2 R.	5.58	6.13	5.84	6.62	6.43	5.74

TABLE II.

GEN % LEAF D.M.			K_2O % LEAF D.M.						P_2O_5 % LEAF D.M.						P_2O_5 % JUICE.					
L3.	L6.	L9.	Control.	L3.	L6.	L9.	P6.	P6 R.	Control.	L3.	L6.	L9.	P6.	P6 R.	Control.	L3.	L6.	L9.	P6.	P6 R.
2.22	2.18	2.32	1.27	1.14	1.14	1.21	1.21	1.14	.49	.54	.57	.59	.65	.58	.048	.049	.055	.049	.053	.050
2.39	2.19	2.22	1.30	1.41	1.41	1.44	—	—	.40	.40	.43	.49	—	—	.036	0.38	.047	.042	—	—
1.93	1.95	2.06	1.36	1.42	1.36	1.33	1.33	1.36	.50	.56	.53	.49	.52	.45	.036	.044	.047	.054	.047	.045

Leaf analysis shewed the nitrogen levels to be satisfactory, as were the potash levels except in the unlimed plots. In the L_0 and L_3 plots, leaf phosphate levels were slightly below the critical levels. The phosphate level in the juice was however high and it is apparent that supplies of soil phosphate are adequate.

This is the first occasion in this series of experiments on liming that the yield increases have shewn significance. The increases which are obtained from liming in this crop cycle may be attributed in part to the slightly enhanced uptake of potash but it is not thought that this effect offers a full explanation for the increase in yield which was obtained.

Sophia, 8 E. Second Ratoons, B.41227. Soil Type: Blairmont Clay.

Liming continues to produce an increase in yield but again these are not statistically significant.

Leaf nitrogen is below the critical level but this result is to be attributed to the low rainfall prior to sampling. Leaf potash is also below the critical level but leaf phosphate shews adequacy. The P_2O_5 % juice is high and soil phosphate supplies may be assumed in general to be adequate.

In this experiment liming does not appear to increase the potash content of the leaf.

The trend for liming to produce small yield increases is again in evidence but the effect cannot be attributed to liming increasing the potash or phosphate nutrient status.

(ii). RELATIVE VALUES OF VARIOUS PHOSPHATE FERTILIZERS.

Two experiments to determine the relative values of different phosphate fertilizers as sources of phosphate for sugar cane under local conditions were reaped in 1958. The experiment on an intermediate pegassy clay at Diamond Estate (25 G.G.-E.) was reaped as second ratoons, and that on a Blairmont Clay at the Sugar Experiment Station (So.11 E.) was reaped as first ratoons.

In the experiment at Diamond Estate, B.37161 was the indicator variety while B.41227 was planted in the experiment at the Sugar Experiment Station.

In each experiment all plots received 141 lbs. of nitrogen per acre in the form of ammonium sulphate, while the phosphatic fertilizers were applied at rates giving 125 lbs. P_2O_5 per acre.

YIELD DATA.

The yield data for the two experiments are given in Table III in which is also tabulated the mean P_2O_5 % Juice and the lbs. P_2O_5 per acre in Juice for the various treatments.

DISCUSSION OF RESULTS.

Diamond, G.G.25 E. Second Ratoons, B.37161. Soil Type: Intermediate Pegassy Clay.

TABLE. III.

EXPERIMENTS ON THE RELATIVE VALUES OF VARIOUS PHOSPHATE FERTILIZERS, 1958.

DIAMOND, G.G. 25 E. Second Ratoons, B.37161.

Phosphatic Fertilizer.	Tons 96° Sugar per Acre.	P_2O_5 % Juice	Lbs. P_2O_5 per Acre in Juice.
Control	4.31	.010	6.7
Dicalcium Phosphate	4.33	.012	8.3
Reno Rock Phosphate	4.48	.013	9.0
Ground Rock Phosphate	4.49	.012	8.5
Basic Slag	4.62	.012	8.7
Calcium Superphospate	4.88	.013	9.8

SOPHIA, 11 E. First Ratoons, B.41227.

Phosphatic Fertilizer.	Tons 96° Sugar per Acre.	P_2O_5 % Juice.	Lbs. P_2O_5 per Acre in Juice.
Calcium Superphosphate	4.24	.032	22.8
Dicalcium Phosphate	4.24	.027	22.3
Control	4.34	.022	15.6
Reno Rock Phosphate	4.39	.028	19.2
Basic Slag	4.68	.028	24.2

TABLE IV.

VARIETY—FERTILIZER EXPERIMENTS, 1958.

SOPHIA, 10 E. Second Ratoons.

Cane Variety.	Tons 96° Sugar per Acre. Lbs. Nitrogen/Acre.			Pol. % Cane Lbs. Nitrogen/Acre.		
	35.	71.	141.	35.	71.	141.
B. 41227	2.33	3.62	4.45	15.83	15.66	15.83
B. 37161	1.84	3.48	4.65	15.99	16.41	16.33
B. 4362	1.88	2.84	4.17	15.94	16.21	16.83
B. 4098	1.20	2.21	2.59	14.75	15.08	15.35
D. 37/45	2.36	3.44	5.05	16.47	16.35	16.48
Means	1.92	3.12	4.18	15.80	15.94	16.16
Significant Difference		0.80			0.63	

SOPHIA, 8 E. Second Ratoons.

Cane Variety.	Tons 96° Sugar per Acre. Lbs. Nitrogen/Acre.			Pol. % Cane Lbs. Nitrogen/Acre.		
	35.	71.	141.	35.	71.	141.
B. 41227	3.82	4.36	5.79	16.73	15.95	15.69
B. 37161	3.89	4.87	5.72	15.67	15.14	14.73
B. 4362	2.87	3.28	3.82	16.00	16.11	15.77
B. 4098	2.39	2.79	4.20	14.46	15.37	15.04
D. 37/45	3.75	4.80	6.32	14.80	15.38	15.41
Mean	3.34	4.02	5.17	15.53	15.59	15.34
Significant Difference		0.54			0.91	

As in the plant cane and first ratoon crops, there were no statistically significant differences in yields between the various treatments and phosphate applications gave no statistically significant gains in yield.

The availability of the phosphate from the various sources is again measured by the P_2O_5 % juice and the lbs. of P_2O_5 per acre in the juice of the canes from the various treatments. On the basis of these criteria, the various sources of phosphate appear to be of approximately equal value.

Sophia, 11 E. First Ratoons, B.41227. Soil Type: Blairmont Clay.

In this experiment, the differences between the various treatments in the yield of 96° sugar per acre are also insignificant. Application of phosphate has however, resulted in an increased uptake of phosphate by the cane plant. From Table III, the differences in the availability of the phosphate from the various sources are also seen to be insignificant.

(iii). VARIETY-FERTILIZER EXPERIMENTS.

The two experiments of this type were reaped as Second Ratoons in 1958. The Plant cane and First Ratoon results have been previously reported in Bulletin No. 25, pp. 66-70 and Bulletin No. 26, p.p. 71-73.

The rates at which nitrogen was applied to the second ratoons were the same as those applied to the previous crop, viz. 35, 71 and 141 lbs. nitrogen per acre, corresponding to 1½, 3 and 6 cwt. of sulphate of ammonia per acre. These applications are designated as $N_{1.5}$, N_3 and N_6 rates respectively in the text.

YIELD DATA.

The yields in terms of 96° sugar and the mean Pol. % Cane for the various treatments and cane varieties obtained from the two experiments of this series are presented in Table IV. The yields are also presented graphically in Figure I.

DISCUSSION OF RESULTS

Sophia, 10 E. Second Ratoons. Soil Type: Blairmont Clay.

From the data presented in Table IV, it is seen that by increasing the rate of application of nitrogen from 35 lbs. nitrogen per acre to 71 lbs. per acre there is obtained an increase in 96° sugar per acre which is significant for each variety. By further increasing the nitrogen application from 71 lbs. to 141 lbs. per acre, the yield of 96° sugar per acre is further increased, the increases being significant for all varieties except B.4098. These results follow the same pattern as those of the first ratoons.

At the 35 lbs. per acre rate of applied nitrogen, the only significant differences in yield *between* varieties is the margin by which B.4098 is outyielded by B.41227 and D.37/45.

At the 71 lbs. nitrogen per acre rate of application B.4098 is again significantly outyielded by B.41227, D.37/45 and B.37161.

At the 141 lbs. nitrogen per acre rate, B.4098 is significantly outyielded by all the other varieties. In addition, B.4362 is outyielded by D.37 45 at this rate of application of nitrogen per acre.

The Pol. % Cane data shew no clearly defined *trend* except for B.4362 and B.4098 in which the Pol. % Cane increases with increase in the rate of application of nitrogen. In the case of B.4362 the increase in Pol. % Cane from the 141 lbs. N per acre rate is significantly higher than that from the 35 lbs. per acre rate, while it just fails to be significant for B.4098.

Significant differences in Pol. % Cane between varieties occur in the case of the 35 lbs. nitrogen per acre rate, in the margin by which the Pol. % Cane of B.4098 is exceeded by that of the other varieties, and also, that by which the Pol. % Cane of D.37/45 exceeds that of B.41227 at this rate of application.

At the N_3 level, the Pol. % Cane of B.4098 is exceeded by statistically significant amounts by that of B.4362, B.37161 and D.37/45, as is also the margin by which the Pol. % Cane of B.41227 is exceeded by that of B.37161 and D.37/45.

At the N_6 level, the Pol. % Cane of B.4098 is exceeded by statistically significant amounts by that of B.37161, D.37/45 and B.4362 while B.41227 is similarly exceeded by D.37/45 and B.4362.

Sophia, 8 E. Second Ratoons. Soil Type: Blairmont Clay.

In this experiment, increases in 96° sugar per acre are obtained as usual by increasing the rate of application of nitrogen from 35 to 71 lbs. per acre. The increases so obtained, are statistically significant in the case of the varieties B.41227, B.37161 and D.37/45 and just short of significance in the case of B.4362 and B.4098. By increasing the nitrogen application from 71 lbs. per acre to 141 lbs. per acre, further increases in the yield of 96° sugar per acre are obtained, the increased yields in this case being significant for each variety.

As between varieties, B.4098 and B.4362 are outyielded by statistically significant amounts by B.41227, B.37161 and D.37/45 at all levels of applied nitrogen. There are no statistically significant differences in yield between B.41227, B.37161 and D.37/45 except at the N_3 level where the amount by which D.37/45 has outyielded B.37161 is significant.

The effects of increasing the rate of application of nitrogen on the Pol. % Cane are various. In the case of B.41227 and B.37161, there is a steady decrease in the Pol. % Cane with increase in the rate of application of nitrogen. With B.4362 and B.4098, the Pol. % Cane increased with increase in nitrogen applied from 35 lbs. to 71 lbs. nitrogen per acre, and then decreased with the application of nitrogen at 141 lbs. per acre. In the case of D.37/45, the Pol. % Cane tends to increase with increase in the rate of nitrogen applied. Significant decreases in Pol. % Cane coincident with increase in rate of nitrogen applied from 35 to 141 lbs. nitrogen per acre occurs in the case of B.41227 and B.37161. A significant increase in Pol. % Cane occurs with B.4098 when the rate of application of nitrogen is raised from 35 to 71 lbs. per acre.

Between varieties, at the 35 lbs. nitrogen per acre level, the Pol. % Cane of B.41227, B.4362, and B.37161 are significantly higher than the Pol. % Cane of B.4098 while that of B.41227 and B 4362 are also significantly higher than that of D.37/45. In addition, the Pol. % Cane of B.41227 is significantly higher than that of B.37161.

At the N_3 level, the only statistically significant difference in Pol. % Cane, is that by which the Pol. % Cane of B.4362 exceeds that of B.37161.

At the N_6 level, the Pol. % Cane of B.41227 and B.4362 are significantly higher than the Pol. % Cane of B.37161. No other differences are significant.

SUMMARY

(i) **Liming Experiments.**

The general tendency for applications of limestone to give small increases in yield which has characterised these experiments, continued in the 1958 reapings in So. 1 W. and So. 8 E. A significant increase in yield was obtained however, in So. 8 W.

Liming continues to produce an increase in the P_2O_5 % Juice indicating that it definitely increases the availability of soil phosphate. Leaf analyses also shew a tendency for the Phosphate and Potash contents of the leaf dry matter to increase when limestone is applied.

(ii). **Relative Values of Various Phosphate Fertilizers.**

Neither of the two experiments with different phosphatic fertilizers have shewn any statistically significant response to applications of phosphate although the yields of the plots receiving phosphate have been somewhat higher than those of the controls.

The relative availability of the phosphate supplied has been measured by the "P_2O_5 % Juice" and the "Lbs. P_2O_5 in juice per acre" from the various treatments. Applications of phosphate invariably increase the P_2O_5 % Juice and the lbs. of P_2O_5 in the cane per acre but the differences between the various sources of phosphate are insignificant. It thus appears that for the soils on which the experiments were laid down, equivalent rates of application of total phosphate result in approximately the same quantities of phosphate being available to the cane plant.

(iii). **Variety - Fertilizer Experiments.**

These experiments were designed to determine whether different cane varieties possess different nitrogen requirements. The varieties used were B.41227, B.37161, D.37/45, B.4362 and B.4098.

The data obtained in respect to yield shew that these five varieties possess similarly shaped yield curves although as between experiments there is some variation in the curves which are probably attributable to differences in soil and climatic conditions at the two sites.

On the soils on which the experiments were sited, B.41227, D.37/45 and B.37161 are definitely higher yielding varieties than are B.4362 and B.4098, the

differences becoming greater with successive reapings as ratoons. Between B.41227, D.37/45 and B.37161 there is little to choose in yielding ability but there is a tendency for B.41227 to be the best of the three at the lowest level of nitrogen and for D.37/45 to be the best at the highest level but the differences in yield between these varieties are rarely significant.

Taking the two experiments together, in the plant cane crop, 71 lbs. nitrogen per acre (3 cwt. of sulphate of ammonia per acre) appears to be the *economic* maximum rate of application. In the first and second ratoon reapings, twice this rate gives economic yields but maximum yields would appear to require even higher rates of application under the conditions prevailing in these experiments.

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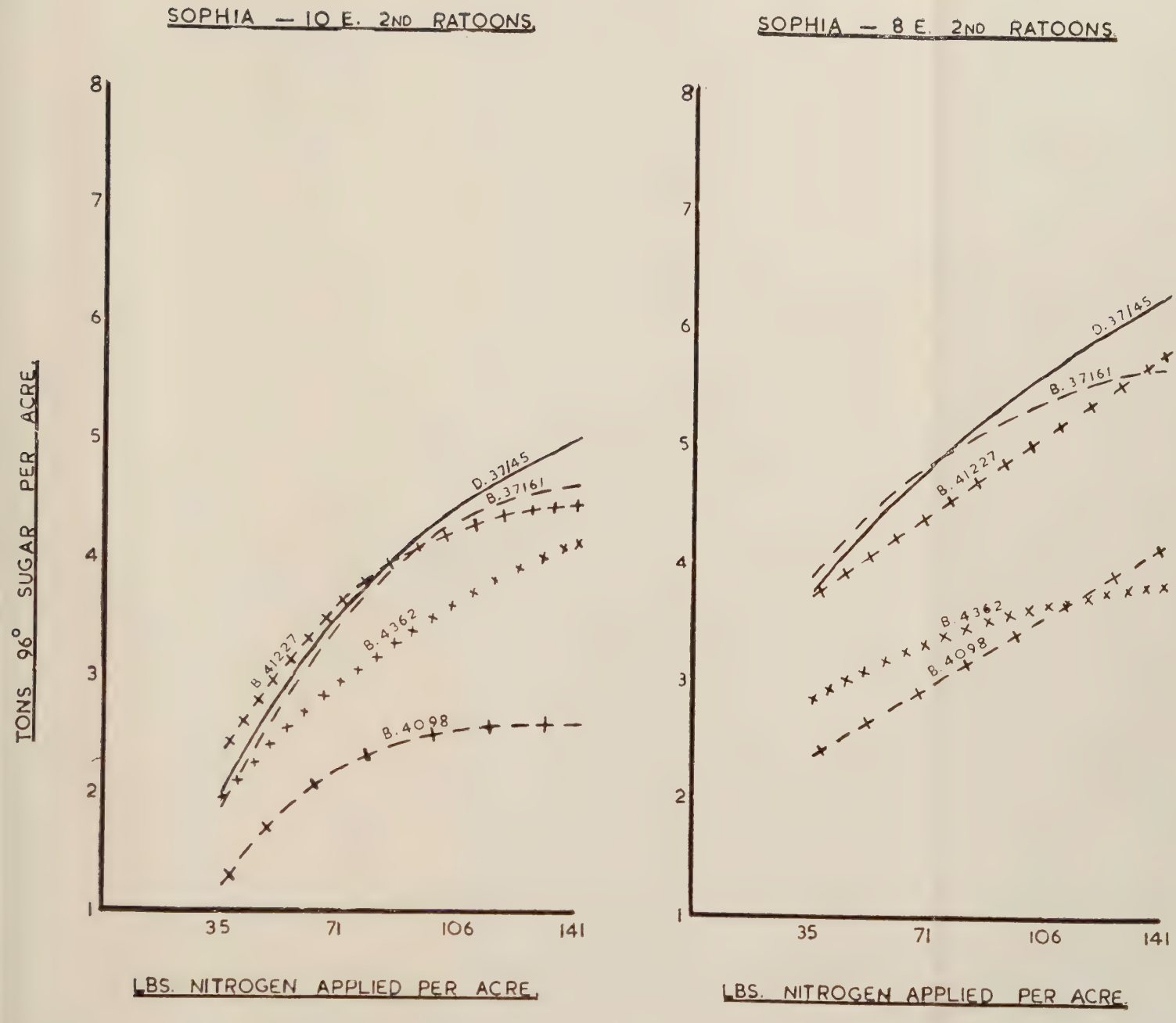
FIGURE I.


SOPHIA — 10 E. 2ND RATOONS.
SOPHIA — 8 E. 2ND RATOONS.
TONS 96° SUGAR PER ACRE.
8
7
6
5
4
3
2
1
35
71
106
141
D. 37/45
B. 37161
B. 41227
B. 4362
B. 4098
LBS. NITROGEN APPLIED PER ACRE.
LBS. NITROGEN APPLIED PER ACRE.
LEGEND
B. 41227
B. 37161
B. 4098
B. 4362
D. 37/45

4. CULTIVATION EXPERIMENTS

BY

L. S. BIRKETT and C. CAMERON.

The experiment to compare the Cameron-Williams method of cultivation with the standard estate method of hand cultivation is now in the second cycle and was reaped as First Ratoons in 1958. The data for this crop is presented in Table I.

TABLE I.

Cane Variety.	Standard Estate Method.			Cameron–Williams Method.		
	Tons 96° Sugar per Acre.	Juice Purity.	Tons Cane per ton 96° Sugar.	Tons 96° Sugar per Acre.	Juice Purity.	Tons Cane per ton 96° Sugar.
B. 47258 ..	6.45	84.0	7.95	6.62	85.2	8.31
D. 62/43 ..	6.12	86.2	8.22	6.97	86.8	7.75
B. 41227 ..	6.10	83.7	7.60	6.66	86.7	7.60
D. 158/41 ..	5.91	83.5	8.67	6.65	84.5	8.33
B. 4098 ..	5.02	81.8	9.21	5.90	88.5	8.56
B. 34104 ..	4.99	84.5	8.42	5.58	85.9	8.34
B. 37161 ..	4.77	84.0	9.18	5.82	86.0	8.52
Means : ..	5.62	84.0	8.47	6.31	86.2	8.20

It will be observed that the yield of 96° sugar per acre and the purity of the juice are both higher and the tons cane required to produce a ton of 96° sugar slightly lower in the Cameron-Williams method of cultivation. These results duplicate those of the Plant Cane crop. The rainfall during the growth of the First Ratoons crop reaped in 1958 was 78.69 inches which is below average. However, supplementary irrigations were given from time to time as required.

	Third Ratoons.		
	100 Acres and Over.		
B. 37161	1,822.2	3.57	10.94
B. 47225	208.2	3.36	10.84
Pindar	101.2	3.20	11.68
B. 41227	1,255.6	3.15	12.01
B. 4362	434.1	3.09	11.32
	Under 100 Acres.		
B. 47258	3.0	4.00	10.83
D. 37/45	9.3	3.98	11.38
Co. 419	20.7	3.72	12.01
B. 46378	26.2	3.55	11.66
B. 4373	21.0	3.46	10.51
B. 43253	.3	3.33	15.00
B. 4098	23.0	3.18	11.68
B. 47379	21.8	2.99	10.65
Mixed	13.0	2.94	10.99
B. 40105	94.1	2.68	11.33
	Fourth Ratoons.		
	100 Acres and Over.		
B. 37161	324.9	4.03	10.51
B. 41227	880.6	3.37	11.60
B. 4362	157.1	3.28	11.57
	Under 100 Acres.		
B. 4098	98.0	3.72	11.70
D. 37/45	5.7	3.16	12.78
B. 46378	10.5	2.86	10.57
B. 47225	53.6	2.13	15.73
	Old Ratoons.		
	100 Acres and Over.		
B. 41227	236.8	3.59	11.06
B. 37161	149.4	3.13	12.20
	Under 100 Acres.		
Co. 419	34.8	4.22	11.35
B. 40105	12.0	3.92	13.77
B. 34104	23.0	3.74	12.27
D. 158/41	19.5	2.72	12.62

* Undue importance should not be attached to the order of merit when only a small acreage has been harvested.

TABLE I (A).— **Weighted Mean Commercial Yields in East Demerara, 1958.**

Variety.	Acres Harvested.	Tons Sugar per Acre*	Tons Cane per ton Sugar.
Plant Canes.			
100 Acres and Over.			
B. 37161	268.5	4.65	12.02
B. 47258	381.5	4.52	11.08
B. 41227	2,269.0	4.25	11.67
Under 100 Acres.			
B. 49257	.2	5.00	11.00
D. 37/45	15.1	4.63	11.26
Mixed	9.6	4.38	11.55
B. 45137	37.3	4.18	11.41
B. 47225	81.8	4.01	11.30
H. 44-3098	16.1	3.35	13.04
G. 176	2.7	2.22	11.83
Q. 28	2.5	2.00	12.80
First Ratoons.			
100 Acres and Over.			
B. 47258	165.7	4.29	11.51
B. 41227	2,239.6	3.94	11.40
B. 37161	836.4	3.72	12.27
B. 47225	125.5	3.69	11.53
Under 100 Acres.			
B. 45137	.6	5.00	11.67
Mixed	12.8	4.05	10.58
B. 48372	17.0	3.82	11.89
N.Co. 330	10.2	3.63	10.97
B. 43253	10.0	3.40	11.65
Q. 28	2.5	3.20	9.63
H. 44-3098	5.8	3.10	10.44
G. 176	2.7	1.85	9.80
Second Ratoons.			
100 Acres and Over.			
B. 47258	104.9	4.37	10.57
B. 41227	940.5	4.09	10.69
B. 4373	101.4	4.07	10.63
Pindar	503.9	3.90	10.85
B. 37161	871.9	3.64	11.05
B. 47379	198.0	3.50	12.36
B. 47225	737.9	3.29	11.18
B. 40102	118.8	3.19	12.07
Under 100 Acres.			
D. 37/45	36.6	4.73	10.91
B. 48372	5.5	3.45	11.58
H. 37-1933	3.2	3.44	10.55
M. 213/40	4.5	3.33	13.13
P.O.J. 3016	2.1	3.33	12.14
Mixed	45.7	3.30	10.93
B. 43253	5.5	3.27	10.17
P.O.J. 2967	6.0	3.17	11.63
M. 423/41	2.3	3.04	13.00
Trojan	1.0	3.00	10.67
Comus	1.0	3.00	10.33
B. 4362	12.7	2.99	12.24
N.Co. 330	1.8	2.78	11.00
N.Co. 310	26.7	2.73	10.79
Eros	13.2	2.65	13.37
B. 46378	12.1	2.64	11.76
M. 134/32	4.2	2.62	12.18
M. 112/34	4.5	2.44	12.00

TABLE I. (B).—**Weighted Mean Commercial Yields in West Demerara, 1958.**

Variety.	Acres Harvested.	Tons Sugar per Acre.*	Tons Cane per ton Sugar.
	Plant Canes.		
	100 Acres and Over.		
B. 47258	706.4	4.63	11.40
B. 37161	874.8	4.33	11.83
B. 41227	1,026.8	4.28	11.02
	Under 100 Acres.		
B. 47225	14.5	4.90	11.23
Mixed	3.5	4.11	11.11
Pindar	73.0	3.95	11.58
B. 4362	46.3	3.88	12.10
B. 45137	10.8	3.35	11.97
B. 49119	20.3	2.94	13.96
D. 62/43	9.8	2.51	15.67
	First Ratoons.		
	100 Acres and Over.		
B. 4362	263.8	4.08	11.71
B. 37161	1,163.3	3.78	11.27
B. 41227	1,163.4	3.75	11.30
	Under 100 Acres.		
B. 4744	25.7	4.75	11.62
B. 47225	86.4	4.14	10.58
B. 47258	48.9	4.10	11.42
Pindar	14.2	3.68	9.04
B. 50135	2.0	3.50	14.14
B. 4098	10.0	3.50	11.74
B. 47262	1.0	3.30	11.52
B. 47379	2.0	3.10	13.55
B. 48372	4.8	3.06	11.77
Mixed	12.6	2.79	11.68
B. 45137	4.2	2.51	11.44
B. 49119	9.3	2.44	13.83
	Second Ratoons.		
	100 Acres and Over.		
B. 41227	613.0	4.03	10.52
B. 4098	114.2	3.80	10.01
B. 37161	1,625.5	3.53	10.76
B. 47258	113.8	3.31	11.65
B 47225	580.6	3.23	11.32
	Under 100 Acres.		
B. 49119	2.0	5.20	11.35
B. 4362	37.5	4.32	9.56
D. 37/45	3.3	4.24	9.57
B. 4744	3.4	4.12	9.57
B. 48372	15.0	3.12	11.35
B. 46378	45.6	3.10	12.06
B. 47379	67.8	2.95	11.35
Pindar	39.5	2.63	11.84
Mixed	8.8	2.58	12.38
B. 4373	17.3	2.40	13.87
Trojan	5.5	2.07	12.63
N. Co. 310	10.8	2.07	12.83
H. 32-1063	.3	1.60	10.00
	Third Ratoons.		
	100 Acres and Over.		
B. 47225	290.7	3.45	11.29
B. 4362	179.8	3.37	11.36

B. 37161	1,219.7	3.31	10.94
B. 41227	219.1	3.21	11.08
Under 100 Acres.			
B. 48372	7.3	4.48	10.80
B. 4744	6.0	4.17	10.96
Eros	5.0	4.08	10.34
P.O.J. 3016	1.3	4.00	10.40
P.O.J. 2967	3.8	3.87	10.62
B. 47258	24.3	3.86	10.33
B. 47379	3.0	3.77	10.88
Comus	1.2	3.73	10.68
B. 4098	93.5	3.55	11.71
Pindar	15.5	3.39	9.81
M. 112/34	6.5	3.15	11.08
B. 46378	34.5	2.86	11.67
M. 134/32	11.8	3.28	11.89
Fourth Ratoons. *100 Acres and Over.*			
B. 4362	257.8	3.57	11.05
B. 41227	261.0	3.53	11.46
B. 37161	149.3	3.44	10.99
Under 100 Acres.			
B. 4098	22.3	4.05	11.34
Mixed	11.7	3.51	11.80
B. 47225	36.5	3.27	10.59
Pindar	1.2	3.25	12.31
Old Ratoons. *100 Acres and Over.*			
B. 41227	399.4	3.32	11.25
B. 37161	173.8	3.28	10.98
Under 100 Acres.			
Mixed	6.5	4.48	9.86
B. 47225	22.1	4.34	11.92
B. 4362	25.2	3.97	12.07
B. 43253	4.3	3.79	11.53
B. 4098	33.0	3.65	11.72
Co. 419	10.3	3.28	11.01
B. 46378	4.0	3.23	11.86

* Undue importance should not be attached to the order of merit when only a small acreage has been harvested.

TABLE 1 (C).—Weighted Mean Commercial Yields along Demerara River Banks, 1958.

Variety.	Acres Harvested.	Tons Sugar per Acre*	Tons Cane per ton Sugar.
	Plant Canes.		
	100 Acres and Over.		
B. 47225	109.0	4.48	10.53
Pindar	175.9	4.44	10.46
B. 41227	1,196.3	4.32	11.25
B. 47258	925.5	4.25	10.90
B. 37161	761.1	4.18	11.28
B. 4942	110.1	3.43	9.80
	Under 100 Acres.		
	.3	10.23	11.33
B. 49354	65.3	4.69	11.57
Mixed	93.9	4.43	11.07
Co. 419	47.5	4.17	11.06
B. 49119	20.9	3.90	12.93
B. 47379	4.5	3.56	11.06
B. 47419	1.0	3.10	12.26
B. 45137	1.0	3.00	13.67
B. 49353			
	First Ratoons		
	100 Acres and Over.		
B. 41227	956.8	3.94	11.40
Pindar	311.7	3.91	10.52
B. 37161	1,836.9	3.83	10.84
B. 47258	368.6	3.76	11.74
	Under 100 Acres.		
Co. 419	9.2	5.29	10.68
B. 47225	79.3	4.36	11.04
B. 47379	40.3	3.99	11.93
B. 46378	15.6	3.94	11.53
B. 4362	49.4	3.51	11.97
B. 47419	21.0	3.43	11.03
B. 4942	5.0	3.27	10.00
Mixed	2.6	2.69	11.29
	Second Ratoons.		
	100 Acres and Over.		
B. 47258	155.8	3.80	9.91
B. 37161	2,652.5	3.78	10.64
B. 47225	249.4	3.71	10.38
B. 41227	529.4	3.67	11.16
B. 46378	171.1	3.42	11.41
	Under 100 Acres.		
N.Co. 330	.2	5.10	7.00
Pindar	86.1	4.05	10.15
Co. 419	22.2	3.70	10.83
B. 47419	39.0	3.56	11.07
B. 4362	98.8	3.49	10.75
D. 142/41	3.0	3.30	10.30
Mixed	21.2	2.80	10.62
Trojan	2.7	2.26	10.49
	Third Ratoons.		
	100 Acres and Over.		
B. 4098	182.5	3.80	11.04
B. 37161	2,082.6	3.78	10.84
B. 47225	107.4	3.76	10.72
B. 41227	515.4	3.35	11.86

B. 47147	.1	10.20	9.00
B. 47419	1.6	6.38	10.60
Co. 419	.5	6.12	11.61
B. 4373	.2	5.10	11.00
D. 14/34	10.0	4.30	10.33
B. 46378	60.0	4.11	11.10
D. 37/45	40.6	4.06	10.17
B. 4362	39.6	3.82	10.70
D. 142/41	25.8	3.60	10.78
D. 158/41	7.7	3.32	11.28
B. 47258	30.5	3.11	10.91
	Fourth Ratoons.		
	100 Acres and Over.		
Co. 419	114.7	4.08	11.24
B. 4362	116.7	3.77	10.68
B. 37161	649.5	3.66	10.99
B. 4098	141.1	3.53	10.60
B. 41227	865.5	3.49	11.68
	Under 100 Acres.		
B. 47225	.6	5.67	11.18
D. 37/45	.4	5.25	9.08
D. 158/41	3.0	4.03	11.74
Mixed ..	2.0	3.95	10.89
B. 47258	.4	3.75	12.67
B. 47419	.3	3.40	12.00
B. 46378	.3	3.40	10.00
B. 4373	.3	3.40	12.00
	Old Ratoons.		
	100 Acres and Over.		
Co. 419	233.3	3.88	11.29
B. 41227	643.6	3.79	11.02
B. 37161	876.0	3.78	10.96
	Under 100 Acres.		
B. 4362	4.0	5.75	12.04
B. 4098	12.6	5.40	11.81
D. 62/43	.7	4.39	10.67
B. 34104	31.0	3.45	11.61
Mixed ..	26.3	2.98	11.29
D. 142/41	10.4	2.36	11.67
B. 40105	.5	2.04	13.00

* Undue importance should not be attached to the order of merit when only a small acreage has been harvested.

TABLE I (D).—Weighted Mean Commercial Fields in Berbice, 1958.

Variety.	Acres Harvested.	Tons Sugar per Acre.*	Tons Cane per ton Sugar.
Plant Canes.			
100 Acres and Over.			
B. 4098	117.0	4.32	12.07
B. 41227	1,560.5	4.11	11.76
B. 37161	3,288.6	4.09	12.12
B. 47258	375.7	3.74	11.76
Pindar	115.5	3.71	12.53
Under 100 Acres.			
D. 158/41	25.1	5.18	13.65
B. 50135	.8	4.50	11.39
B. 4362	9.8	4.45	12.22
Mixed	74.8	4.05	12.30
B. 47379	47.0	3.97	14.08
B. 4995	5.6	3.79	11.93
H. 44-3098	78.7	3.69	11.31
First Ratoons.			
100 Acres and Over.			
B. 47258	940.9	3.99	10.98
B. 41227	2,607.2	3.76	11.79
B. 37161	4,154.9	3.69	11.77
Pindar	135.1	3.14	11.25
Under 100 Acres.			
B. 47179	2.5	4.52	10.97
H. 44-3098	4.8	4.38	11.95
Trojan	14.1	4.01	10.16
B. 49119	18.7	3.82	10.85
Mixed	48.5	3.82	12.02
B. 45137	18.9	3.81	11.47
B. 4362	1.5	3.80	12.28
B. 47225	54.0	3.71	12.20
B. 47379	13.6	3.46	12.19
B. 42231	1.3	3.08	10.25
B. 48372	1.0	3.00	12.67
H. 37-1933	5.1	2.94	12.87
N. Co. 330	10.1	2.93	10.10
Q. 28	7.5	2.75	11.36
Second Ratoons.			
100 Acres and Over.			
B. 47258	156.5	3.87	11.06
B. 37161	3,953.7	3.78	11.39
B. 4098	136.4	3.63	11.95
B. 41227	1,619.3	3.60	11.47
B. 47225	891.8	3.40	11.64
Pindar	414.0	3.32	11.41
Under 100 Acres.			
D. 158/41	6.3	4.76	11.67
Mixed	64.5	3.58	11.70
Co. 419	37.6	3.56	13.42
B. 4373	16.9	3.47	12.41
Eros	51.8	3.43	11.35
B. 46218	4.5	3.33	13.67
P.R. 1000	2.2	3.32	11.63
H. 37-1933	20.8	3.23	11.32
M. 112/34	4.9	3.00	12.38
B. 45137	1.2	2.83	10.88
B. 46378	24.5	2.78	12.66
B. 43253	10.1	2.71	12.48
B. 4362	16.5	2.61	11.32
M. 134/32	6.0	2.55	12.88

N. Co. 310	3.1	2.20	11.13
	Third Ratoons.		
	100 Acres and Over.		
B. 37161	3,453.3	3.64	11.29
B. 41227	2,266.6	3.39	11.36
B. 4098	637.6	3.25	11.05
B. 4362	278.9	3.17	11.64
B. 47225	197.2	3.11	11.36
	Under 100 Acres.		
D. 158/41	37.4	3.93	10.69
B. 40105	7.1	3.80	11.76
Mixed	49.4	3.78	10.79
B. 43413	1.7	3.53	11.17
B. 4373	8.8	3.53	10.48
Pindar	60.5	3.45	11.22
D. 18/46	2.0	3.35	15.37
B. 4373	1.1	3.27	12.78
D. 37/45	8.8	3.20	13.00
Eros	2.5	2.92	10.55
B. 47258	7.4	2.84	11.38
D. 62/43	60.2	2.84	14.03
B. 46378	35.3	2.84	11.64
D. 19/46	2.0	2.60	14.42
B. 4724	2.0	2.50	13.80
N. Co. 310	3.7	1.68	12.28
	Fourth Ratoons.		
	100 Acres and Over.		
B. 37161	888.5	3.40	11.22
B. 41227	2,099.5	3.39	11.47
B. 4098	606.8	3.15	11.39
	Under 100 Acres.		
B. 40105	.6	5.00	11.67
Mixed	28.3	3.42	11.66
B. 34104	10.4	3.27	11.15
B. 46378	8.2	3.26	11.42
D. 37/45	5.1	3.14	13.50
B. 47225	6.5	3.02	11.12
Pindar	8.4	2.74	13.52
D. 62/43	74.9	2.67	12.54
B. 4362	35.2	2.36	12.00
B. 4373	.2	2.00	15.00
	Old Ratoons.		
	100 Acres and Over.		
B. 41227	552.3	3.50	11.64
B. 37161	325.5	3.42	11.39
B. 4098	501.5	2.87	11.84
	Under 100 Acres.		
D. 37/45	.9	4.78	9.07
B. 46378	.6	4.00	10.42
D. 62/43	2.0	3.05	12.79
Mixed	26.3	2.98	11.29
B. 47225	2.3	2.23	10.78
B. 4362	8.7	2.18	13.53

* Undue importance should not be attached to the order of merit when only a small acreage has been harvested.

TABLE I (E).—**Weighted Mean Commercial Yields under Estate Conditions, 1938.**

Variety.	Acres Harvested.	Tons Sugar per Acre.*	Tons Cane per ton Sugar.
	Plant Canes.		
	100 Acres and Over.		
Mixed	153.2	4.35	11.89
B. 47258	2,389.1	4.33	11.19
B. 47225	205.3	4.32	10.87
B. 4098	117.0	4.32	12.07
B. 41227	6,052.6	4.23	11.45
B. 37161	5,193.0	4.17	11.94
Pindar	364.4	4.11	11.27
B. 4942	110.1	3.43	9.80
	Under 100 Acres.		
B. 49354	.3	10.23	11.33
D. 158/41	25.1	5.18	13.65
B. 49257	.2	5.00	11.00
D. 37/45	15.1	4.63	11.26
B. 50135	.8	4.50	11.39
Co. 419	93.9	4.43	11.07
B. 4362	56.1	3.98	12.13
B. 45137	49.1	3.97	11.53
B. 47379	67.9	3.95	13.73
B. 49119	67.8	3.80	11.73
B. 4995	5.6	3.79	11.93
H. 44-3098	94.8	3.63	11.58
B. 47419	4.5	3.56	11.06
B. 49353	1.0	3.00	13.67
D. 62/43	9.8	2.51	15.67
G. 176	2.7	2.22	11.83
Q. 28	2.5	2.00	12.80
	First Ratoons.		
	100 Acres and Over.		
B. 4362	314.7	3.99	10.86
B. 47258	1,524.1	3.97	11.12
B. 47225	345.2	3.96	11.25
B. 41227	6,967.0	3.84	11.35
B. 37161	7,991.5	3.74	11.53
Pindar	461.0	3.68	10.66
	Under 100 Acres.		
C. 419	9.2	5.29	10.67
B. 4744	25.7	4.75	11.62
B. 47179	2.5	4.52	10.97
Trojan	14.1	4.01	10.16
B. 46278	15.6	3.94	11.53
B. 47379	55.9	3.83	12.03
H. 44-3098	10.6	3.68	11.26
Mixed	76.5	3.65	11.69
B. 48372	22.8	3.63	11.90
B. 45137	23.7	3.61	11.47
B. 50135	2.0	3.50	14.14
B. 4098	10.0	3.50	11.74
B. 47419	21.0	3.43	11.03
B. 43253	10.0	3.40	11.65
B. 49119	28.0	3.36	11.57
B. 47262	1.0	3.30	11.52
N.Co. 330	20.3	3.28	10.59
B. 4942	5.0	3.27	10.00
B. 42231	1.3	3.08	10.25
H. 37-1933	5.1	2.94	12.87
Q. 28	10.0	2.86	10.87
G. 176	2.7	1.85	9.80
	Second Ratoons.		
	100 Acres and Over.		
B. 47258	531.0	3.83	10.72

B. 41227	3,702.2	3.81	11.04
B. 4373	137.6	3.79	11.10
B. 4098	250.6	3.71	11.04
B. 37161	9,103.6	3.70	11.03
Pindar	1,043.5	3.63	11.01
B. 4362	165.5	3.55	10.56
B. 47225	2,459.7	3.36	11.29
B. 47379	265.8	3.36	12.14
Mixed	140.2	3.31	11.35
B. 46378	253.3	3.26	11.63
B. 40102	118.8	3.19	12.07
Under 100 Acres.			
B. 49119	2.0	5.20	11.35
D. 158/41	6.3	4.76	11.67
D. 37/45	39.9	4.69	10.81
B. 4744	3.4	4.12	9.57
Co. 419	59.8	3.61	12.44
B. 47419	39.0	3.56	11.07
P.O.J. 3016	2.1	3.33	12.14
M. 213/40	4.5	3.33	13.13
B. 46218	4.5	3.33	13.67
P.R. 1000	2.2	3.32	11.63
D. 142/41	3.0	3.30	10.30
Eros	65.0	3.28	11.69
H. 37-1933	24.0	3.26	11.21
B. 48372	20.5	3.21	11.41
P.O.J. 2967	6.0	3.17	11.63
M. 423/41	2.3	3.04	13.00
Comus	1.0	3.00	10.33
N.Co. 330	2.0	3.00	10.33
B. 43253	15.6	2.91	11.56
B. 45137	1.2	2.83	10.88
M. 112/34	9.4	2.73	12.22
M. 134/32	10.2	2.58	12.59
N. Co. 310	12.6	2.50	11.26
Trojan	9.2	2.23	11.71
H. 32-1063	.3	1.60	10.00
Third Ratoons. *100 Acres and Over.*			
B. 37161	8,577.8	3.61	11.06
B. 46378	156.0	3.45	11.40
B. 47225	803.5	3.38	11.11
B. 4098	936.6	3.38	11.13
B. 41227	4,256.7	3.37	11.59
Pindar	177.2	3.30	11.35
B. 4362	932.4	3.20	11.39
B. 40105	101.2	2.76	11.32
Under 100 Acres.			
B. 47147	.1	10.20	9.00
B. 47419	1.6	6.38	10.60
B. 48372	7.3	4.48	10.80
D. 14/34	10.0	4.30	10.33
B. 4744	6.0	4.17	10.96
P.O.J. 3016	1.3	4.00	10.40
P.O.J. 2967	3.8	3.87	10.62
D. 37/45	58.7	3.84	10.71
D. 158/41	45.1	3.83	10.78
Co. 419	21.2	3.78	12.00
Comus	1.2	3.73	10.68
Eros	7.5	3.69	10.40
D. 142/41	25.8	3.60	10.78
Mixed	63.6	3.57	10.87
B. 43413	1.7	3.53	11.17
B. 4373	30.0	3.49	10.51
B. 47258	65.2	3.42	10.66
D. 18/46	2.0	3.35	15.37
B. 43253	.3	3.33	15.00
B. 4733	1.1	3.27	12.78
M. 112/34	6.5	3.15	11.08
B. 47379	24.8	3.08	10.68
D. 19/46	2.0	2.60	14.42
B. 4724	2.0	2.50	13.80
M. 134/32	11.8	2.38	11.89
N. Co. 310	3.7	1.68	12.28
Fourth Ratoons. *100 Acres and Over.*			
Co. 419	114.7	4.08	11.24
B. 37161	2,012.2	3.59	11.00
B. 4362	566.8	3.45	11.15
B. 41227	4,206.6	3.42	11.54
B. 4098	868.2	3.30	11.29
Under 100 Acres.			
D. 62/43	.6	5.00	11.67
D. 158/41	3.0	4.03	11.74
B. 47258	.4	3.75	12.67
Mixed	42.0	3.47	11.66
B. 47419	.3	3.40	12.00
B. 34104	10.4	3.27	11.15
D. 37/45	11.2	3.22	12.88
B. 46378	19.0	3.04	10.97
B. 4373	.5	2.80	12.86
Pindar	9.6	2.80	13.35
B. 47225	97.2	2.64	12.00

THE VARIETY AND FERTILIZER POSITION OF THE SUGAR INDUSTRY. XXIV.

BY

L. S. BIRKETT, *Sugar Agronomist.*

1. Commercial Yields, 1958. The average yield of commercial sugar on the sugar estates in British Guiana in 1958 was 3.73 tons per rhynland acre. The corresponding figures for 1955, 1956 and 1957 were 3.40, 3.67 and 3.62 tons per rhynland acre respectively.

The yields of the various varieties on a regional basis are presented in Table I. These data are summarised for the major cane varieties in Table II.

TABLE II.—**Weighted Average Yields for Major Cane Varieties, 1958.**

Cane Variety.	Average Yield, Tons Sugar per Acre, 1958.						Average Tons Cane per ton Sugar.
	Plants.	1 R.	2 R.	3 R.	4 R.	Old R.	
B. 47258 ..	4.33	3.97	3.83	3.42	3.75	—	11.10
B. 41227 ..	4.23	3.84	3.81	3.37	3.42	3.55	11.38
B. 37161 ..	4.17	3.74	3.70	3.61	3.59	3.58	11.31
B. 4362 ..	3.98	3.99	3.55	3.20	3.45	3.75	11.25
B. 4098 ..	4.32	3.50	3.71	3.38	3.30	2.98	11.35
B. 47225 ..	4.32	3.96	3.36	3.38	2.64	4.06*	11.27
Pindar ..	4.11	3.68	3.63	3.30	2.80	—	11.02
B. 47379 ..	3.95	3.83	3.36	3.08	—	—	12.34
Colony Averages. (All Varieties).	4.21	3.81	3.66	3.48	3.40	3.51	11.33

*Acreage too small to be representative.

In assessing the value of a cane variety to the sugar industry, yields cannot be considered without reference to the ratooning ability of the variety, and in practice, this is best measured by the percentage of the original plant cane acreage which is retained at each crop cycle. If the percentage of the original plant cane acreage which is retained as fourth ratoons is taken as a measure of this ability then we get for the varieties B.41227, B.37161, B.4362 and B.4098 in 1958, 54%, 50%, 46% and 28% as the percentage of the plant cane retained respectively.

Present indications are that B.47258 will be as good as B.41227 and B.37161 in this respect but the plant cane acreage of 1953 in this variety was too small for the fourth ratoons therefrom in 1958 to be regarded as sufficiently representative, and is not quoted for this reason.

2. Varietal Composition of the 1958 Harvest. The total acreage and the distribution of the major varieties reaped in 1958 are summarised on a regional basis in Table III.

It will be noted that the percentage of the acreage in B.41227 scheduled for reaping in 1959 is approximately equal to that of B.37161. The only other variety shewing an increase in percentage acreage is B.47258 which has so far done well on the commercial scale.

4. The Changing Variety Pattern. The percentage of the acreage under the various cane varieties in the Colony over the period 1947—1958 is presented in Table VI.

5. Cycle Age of the Crops. The distribution of the acreage under cane in plants and the various categories of ratoons for the period 1950—1959 is given in Table VII.

TABLE VII.—Cycle Age of the Crops.

Percentages.

Category.	1950.	1951.	1952.	1953.	1954.	1955.	1956.	1957.	1958.	1959.
Plants	33.1	28.8	27.8	26.1	25.0	26.1	27.9	25.1	19.7	13.4
1st Ratoons	27.4	28.2	23.4	23.9	25.1	23.9	24.5	24.8	22.5	18.3
2nd Ratoons	23.3	24.4	23.7	22.4	23.0	24.1	23.3	23.7	22.8	21.7
3rd Ratoons	12.6	15.1	18.8	18.2	17.8	18.6	17.1	16.5	19.9	20.7
4th Ratoons	3.1	3.0	5.4	8.5	7.4	5.0	5.1	7.3	9.6	15.6
Old Ratoons	.5	.5	.9	.9	1.7	2.3	2.1	2.6	5.5	10.3
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The tendency to increase the percentage of the area in fourth and older ratoons continues. While this policy is economically sound under good climatic conditions and is rendered possible by the strong ratooning ability of the cane varieties now being grown, it should not be carried too far as yields may be drastically reduced following a year of heavy rainfall. Under such conditions, not only are stools badly damaged but the progressive compaction of soils with age from time of ploughing is greatly accelerated by reaping in wet weather, particularly as cultivation of ratoons is now rarely practiced. It will probably be advisable for the plant cane acreage not to fall below 17 to 18% of the acreage for *reaping*.

6. Fertilizers. The quantities of, and the expenditure on, the various fertilizers used on the sugar estates in British Guiana for the years 1956, 1957, and 1958, are presented in Table VIII.

The basic rate of application of nitrogen in the form of ammonium sulphate remains the same as formerly but supplementary applications using urea to correct any deficiencies indicated by foliar analyses have resulted in the use of twice the amount of urea which was used in 1957. The application of phosphates in 1958 was appreciably less than in 1957 but there has been an increase in the use of potash. The amount of limestone applied in 1958 is approximately the same as that applied in the two preceding years.

Table VI —Summary of the Percentage of the Acreage under the Major Cane Varieties, 1957—1958.

Variety.	Per cent. of Total Areas in the Colony.											
	1947.	1948.	1949.	1950.	1951.	1952.	1953.	1954.	1955.	1956.	1957.	1958.
P.O.J. 2878	27.6	13.6	6.9	1.6	0.4	—	—	—	—	—	—	—
Diamond 10	21.6	14.4	8.4	3.1	0.9	0.4	—	—	—	—	—	—
D. 166/34	1.0	0.5	—	—	—	—	—	—	—	—	—	—
Co. 419	7.7	8.2	6.8	4.5	2.7	1.7	1.4	1.5	1.4	1.4	0.9	0.7
Co. 421	19.4	19.3	14.2	8.5	3.5	2.1	0.8	—	—	—	—	—
D. 14/34	11.3	17.4	20.6	20.2	15.0	8.6	4.9	2.7	0.9	—	—	—
B. 34104	7.6	22.6	39.8	58.4	67.4	60.2	47.7	31.1	13.3	2.6	—	—
D. 200/36	1.5	1.9	1.7	0.7	—	—	—	—	—	—	—	—
B. 4098	—	—	—	—	—	1.3	4.6	8.7	10.3	8.1	5.4	3.4
B. 37161	—	—	—	1.4	3.6	9.4	14.4	19.1	29.6	39.5	43.1	42.8
B. 40105	—	—	—	—	—	0.5	0.7	1.8	1.5	0.8	—	—
B. 41227	—	—	—	0.3	3.8	12.7	21.7	29.1	34.3	31.0	32.0	33.6
D. 142/41	—	—	—	0.2	1.4	1.6	1.6	1.3	0.8	—	—	—
D. 158/41	—	—	—	—	—	0.3	0.4	0.6	0.5	—	—	—
D. 62/43	—	—	—	—	—	—	0.3	0.4	0.6	—	—	0.2
B. 4362	—	—	—	—	—	—	0.5	2.0	4.5	4.6	4.2	2.6
D. 37/45	—	—	—	—	—	—	—	0.3	0.5	0.6	0.4	0.1
B. 46378	—	—	—	—	—	—	—	—	—	0.6	0.6	0.6
B. 47225	—	—	—	—	—	—	—	—	0.8	5.0	5.0	4.9
B. 47258	—	—	—	—	—	—	—	—	—	0.7	2.6	5.6
B. 47379	—	—	—	—	—	—	—	—	—	0.5	0.5	0.5
Pindar	—	—	—	—	—	—	—	—	—	1.7	2.3	2.5
B. 4373	—	—	—	—	—	—	—	—	—	—	0.3	0.2
Other Varities	2.3	2.1	1.6	1.1	1.3	1.2	1.0	1.4	1.0	2.9	2.7	2.3

TABLE VIII.—Values and Quantities of Fertilizers used on Sugar Estates, 1956 — 1958.

Ammonium Sulphate.			Superphosphate.			Hyperphosphate.			Muriate of Potash.			Limestone.			Urea.			Di-ammonium Phosphate.		
1956.	1957.	1958.	1956.	1957.	1958.	1956.	1957.	1958.	1956.	1957.	1958.	1956.	1957.	1958.	1956.	1957.	1958.	1956.	1957.	1958.
14,708	19,458	19,478	3,058	2,738	1,685	1,504	3,700	1,668	1,149	1,930	2,837	11,492	11,709	11,369	153	488	1,004	—	1,100	858
1,871,436	2,196,724	1,964,875	519,603	448,709	274,123	138,492	321,835	128,800	134,412	215,209	297,859	292,157	295,605	281,198	40,017	114,582	236,542	—	301,763	234,749
127.24	112.90	100.88	169.90	163.88	162.68	92.08	86.98	77.22	116.94	111.51	104.99	25.42	25.27	24.73	261.79	234.80	235.60	—	274.33	273.60
45.6	48.5	50.1	9.5	6.8	4.3	4.7	9.2	4.3	3.6	4.8	7.3	35.6	29.2	29.2	0.5	1.2	2.6	—	0.3	2.2
62.0	56.4	57.5	17.2	11.5	8.0	4.6	8.3	3.8	4.5	5.5	8.7	9.7	7.6	8.2	1.3	2.9	6.9	—	7.8	6.9

REPORT ON THE SUGAR EXPERIMENT STATIONS FOR THE YEAR 1958.

SUGAR EXPERIMENT STATIONS' COMMITTEE.

The following members formed the British Guiana Sugar Experiment Stations' Committee for the year:—

The Director of Agriculture	*Chairman.*
Mr. R. R. Follett-Smith	*Messrs. Bookers Sugar Estates, Ltd.*
Dr. H. Evans	*Messrs. Bookers Sugar Estates, Ltd.*
Mr. J. Baxter	*Messrs. Bookers Sugar Estates, Ltd.*
Mr. A. G. Harley	*Messrs. Sandbach Parker & Co., Ltd.*
Mr. E. S. Douglas	*Secretary.*

RESEARCH SUB-COMMITTEE.

The personnel of the British Guiana Sugar Experiment Stations' Research Sub-Committee for 1958 was as follows:—

The Director of Agriculture	*Chairman.*
Dr. H. Evans	*Messrs. Bookers Sugar Estates, Ltd.*
Mr. A. G. Harley	*Messrs. Sandbach Parker & Co., Ltd.*
Mr. L. S. Birkett	*Sugar Agronomist, British Guiana Sugar Producers' Association.*
Mr. R. O. Williams	*Chief Research Officer, Department of Agriculture.*
Dr. H. Paul	*Superintendent, Central Agricultural Station, Department of Agriculture.*
Mr. C. P. Kennard	*Entomologist, Department of Agriculture.*

STAFF OF SUGAR EXPERIMENT STATIONS.

L. S. Birkett, D.I.C.T.A., A.I.C.T.A.	*Sugar Agronomist.*
C. Cameron	*Field Manager.*
H. I. Gomes	*Field Assistant.*
R. Dookun	*Field Assistant.*
K. Johnson	*Field Assistant (to April).*
B. Bhagwandin	*Field Assistant (to April).*
L. French	*Field Assistant (from May).*
S. Phillippe	*Field Assistant (from May).*
K. Chung	*Statistical Assistant*
S. Mangra	*Laboratory Assistant*
S. Buchanan	*Typist.*

PERSONNEL CHANGES, LEAVE ETC.

Messrs. K. Johnson and B. Bhagwandin resigned during the year and Messrs L. French and S. Phillippe joined the staff as 3rd and 4th Field Assistants respectively.

Absences of the staff from duty during the year were as follows:—

	Long Leave.	Annual Leave.	Sick Leave.
Mr. C. Cameron ..	—	29. 9.58—14.10.58	—
Mr. H. Gomes ..	2. 5.58—31. 7.58	—	—
Mr. R. Dookun ..	—	7. 7.58—15. 7.58 22.12.58—31.12.58	—
Mr. B. Bhagwandin ..	—	11. 1.58—20. 1.58	—
Mr. K. Johnson ..	—	2. 1.58—10. 1.58	—
Mr. L. French ..	—	15.12.58—22.12.58	—
Mr. K. Chung ..	1. 8.58—31.10.58	—	—
Mr. S. Mangra ..	—	7. 7.58—15. 7.58	—
Miss S. Buchanan ..	—	1.12.58—15.12.58	—

EXPERIMENTS.

During the course of the year, seventy-eight Cane Variety experiments, one cultivation cum variety experiment, seven experiments involving lime and the assessment of various sources of phosphate, three experiments on the growth and ripening of four "type" varieties, and two experiments to determine whether different cane varieties possessed different nitrogen requirements, were reaped. The results of these experiments have been fully reported elsewhere in this Bulletin.

SEEDLINGS INTRODUCED, ETC.

The following Cane Varieties were received from the Central Cane Breeding Station, Barbados for yield tests:—

B. 1937 Series. B.37193.

B. 1955 Series. B.55227, B.55228.

B. 1956 Series. B.5660, B.5686, B.5695, B.56102.

B. 1958 Series. B.5801 to B.58101 — B.58107 to B.58157 — B.58159 to B.58213 — B.58217 to B.58230.

The following seedlings were received from the Plant Quarantine Station, Trinidad:— Vesta, Co.475, Co.678, Co.775, Co.991, Ragnar.

In addition "fuzz" was received from the Central Cane Breeding Station Barbados, from which 13,112 seedlings of the D.B. 1957 series were planted out in nurseries.

Crosses made at Sophia produced 1,666 seedlings which were also planted out in nurseries during 1958.

The position in respect to varieties under test and undergoing multiplication in 1958, is presented in Table I.

TABLE I.

Varieties under Test and Undergoing Multiplication Etc., at December 31st, 1958.

Year.	Barbados.		Demerara		Other Countries	
	In Test.	Under Multiplication.	In Test.	Under Multiplication.	In Test.	Under Multiplication.
Prior to 1940	—	1	—	1	22	43
1940	—	—	—	—	—	—
1941	—	—	*1	—	—	—
1942	2	1	—	—	—	—
1943	—	2	1	—	—	—
1944	—	—	—	—	3	3
1945	1	—	1	1	—	2
1946	2	1	7	3	—	—
1947	2	1	—	—	1	1
1949	6	8	—	—	—	—
1950	14	10	—	—	1	1
1951	20	17	—	—	—	—
1952	25	25	13	14	—	—
1953	17	17	*33	12	—	—
1954	19	19	**40	**53	—	—
1955	16	18	**55	**136	—	—
1956	—	4	—	**329	1	1
1957	9	177	—	—	1	1
1958	—	222	—	—	—	—
Totals	133	523	151	549	29	52

* Demerara-Barbados Seedlings.

** Demerara Seedlings (19), Demerara-Barbados Seedlings (74).

** Demerara Seedlings (120), Demerara-Barbados Seedlings (71).

** Demerara Seedlings (58), Demerara-Barbados Seedlings (271).

FINANCE.

The sum of $71,435.00 was voted from the funds of the Sugar Experiment Stations' Committee for the operation of the Station during the year. The total expenditure in 1958 amounted to $70,625.50.

Receipts from assessments for the year amounted to $45,595.68; those from the sale of canes to $31,590.64 and miscellaneous receipts to 1,374.62, while a balance of $6,334.56 was brought forward from 1957.

The quantity of canes sold in 1958 was 3,689 tons. This is a record output for the Station.

MISCELLANEOUS.

Statistics for recent years pertaining to the number of field experiments laid down and harvested, cane cuttings distributed, samples analysed, etc., for the period 1949—1958, are presented in Table II.

TABLE II.—Statistics of Seedlings, Cane Distribution, Field Experiments, Cane and Soil Samples, Cane Sold and Visits Paid to Estates, 1949—1958.

Year.	Seedlings Basketed.	Cane Cuttings Distributed.		Field Experiments.		Cane Samples.		Soil Samples Taken.	Cane Sold to Ogle Estate.		No. of Visits to Estates.
		No. of Cuttings.	No. of Bags.	Started.	Harvested.	No. Taken and analysed.	Cane Crushed (Tons).		Deliveries (Tons).	Net Receipts. $	
1949	—	310,180	2,386	28	62	953	22	14†††	2,535.19	15,892.34	154
1950	—	105,720	1,762	18	65	719	24	—	3,135.25	20,080.18	154
1951	—	123,540	2,059	14	71	654	22	—	3,344.50	24,443.64	89
1952	58**	174,420	2,907	32	62	1,102	30	—	2,794.20	22,274.61	80
1953	1,133***	104,640	1,744	27	63	1,015	37	—	3,345.20	31,255.78	88
1954	8,797****	132,120	2,202	33	80	1,076	31	—	3,524.49	28,698.86	82
1955	3,149*****	139,200	2,320	29	86	1,680	44	—	3,488.40	28,561.15	83
1956	4,815*****	79,620	1,327	29	91	1,903	48	—	3,078.50	25,908.13	70
1957	17,060*****	106,110	1,768	26	103	2,100	55	—	2,962.65	28,671.62	78
1958	15,316*****	97,320	1,622	24	90	2,013	48	—	3,689.00	29,383.56	62

1949 †††Sent to Yale University.
1952 **Demerara Crosses.
1953 ***Mauritius "Fuzz".
1954 ****Barbados "Fuzz".
1955 *****Barbados "Fuzz" (2,982) and Demerara Crosses (167).
1956 *****Barbados "Fuzz" (3,928) and Demerara Crosses (887).
1957 *****Barbados "Fuzz" (15,307) and Demerara Crosses (1,753).
1958 *****Barbados "Fuzz" (13,578) and Demerara Crosses (1,736).

During the year, Mr. D. I. T. Walker, Junior Geneticist of the B.W.I. Central Cane Breeding Station, Barbados, paid a visit to the station.

The Experiment Station was visited by a party of forty students from the Imperial College of Tropical Agriculture, Trinidad, under Professors C. C. Webster and J. W. Purseglove. Also accompanying the party were Professor C. W. Hagen (Indiana University), Dr. P. Ross (Havard University) and Mr. M. G. Emsley, lecturer in Biology, Imperial College of Tropical Agriculture.

ACKNOWLEDGEMENTS.

As in the past, close contact was maintained between the Industry and the Staff of the Sugar Experiment Station.

The cordial co-operation of the Staff of the Sugar Estates and of the Sugar Experiment Station is very gratefully acknowledged.

L. S. BIRKETT,
Sugar Agronomist.

LEAF SCALD RATINGS OF SUGAR CANE VARIETIES IN BRITISH GUIANA.

The present leaf scald ratings in British Guiana of various potential commercial cane varieties forwarded from the B.W.I. Central Cane Breeding Station, Barbados, and of similar varieties raised in British Guiana and other countries, are presented in Table I, along with the ratings of a number of breeding canes.

TABLE I.

RATINGS OF VARIETIES TESTED FOR RESISTANCE TO LEAF SCALD.

BARBADOS SEEDLINGS.

Very Susceptible.	Susceptible.	Susceptible —Tolerant.	Tolerant.		Resistant.	
B. 34104	B. 40102	B. 37161	B. 37172	B. 47216	B. 3337	B. 47214
4409	4226	41227	40105	47217	4098	47225
4410	4448	41211	4214	47258	4304	47262
4411	44254	4306	43253	47314	4373	47379
4466	44279	4362	43391	47397	43330	48259
44244	4504	43214	43413	47399	44182	48375
44341	4553	43229	44111	4847	44278	4905
4502	45151	43349	44165	4851	45188	4906
4608	4691	4506	44269	4867	4668	4945
4692	46340	4572	4530	4881	46116	49122
46281	46369	4604	4534	4888	46288	49257
47147	4733	4699	4556	4893	46295	49376
47233	4755	46136	4596	4895	46308	49380
47256	47179	46144	45137	48228	46399	50126
48125	47306	46230	45152	48231	4710	50135
48177	47348	46232	45156	48232	4738	50184
48179	47419	46339	45270	48372	4743	50267
48350	49119	46351	4681	48384	4746	50345
4968	49377	4724	4688	4942	4764	50370
49166	5028	4744	46102	4956	4765	
49186	50109	4781	46103	4966	4788	
49229	50155	47298	46150	4995	47151	
49353	51168	47380	46151	49197	47162	
5011	52371	48351	46190	49309	51131	
5019	53365	4970	46218	49355	51134	
5073		49301	46248	5037	51211	
50112		49354	46290	5098		
50153		49388	46293	50115		
5121		5041	46297	50141		
5178		5047	46378	50166		
51105		50275	46384	50210		
51167		50377	46394	50268		
51183		5124	4711	50311		
51190		51116	4747	50347		
51259		51156	47135	50352		
51311		51192	47204	51129		
51321						
51353						
51355						

DEMERARA SEEDLINGS.

D. [illegible]	D. 30/43	D. 26/39	D. 153/41	D. 152/45	D. 127/45
14/34	39/43	49/41	4/43	170/45	142/45
142/41	51/43	18/43	54/43	3/46	31/46
27/45	55/43	10/44	1/44	9/46	49/46
56/45	58/43	173/45	3/44	133/46	
62/45	62/43	2/46	7/44	160/46	
123/45	27/44	141/46			
6/46	37/45				
83/46	87/45				
150/46	139/45				
	153/45				
	19/46				
	20/46				
	29/46				
	183/46				
	259/46				
	275/46				
	277/46				

OTHER CANES.

M. 112/34	Co. 419	Diamond 10	M. 213/40	M. 134/32
Trojan	Comus	Co. 421	M. 423/41	S.D. 94/45
C.P. 36-111	Eros	Pindar	P.O.J. 2878	N.Co. 300
C.P. 44-155	N.Co. 310	Ebene 1/37	P.O.J. 2697	
F. 36-819	Q. 28		P.O.J. 3016	
H. 32-8560	H. 38-2915		Pepecuca	
H. 37-1933	H. 38-4443		H. 44-3098	
H. 39-5803	H. 39-3633			
	H. 39-7028			
	C.P. 34-79			
	C. 41-223			
	F. 36-819			

BREEDING CANES

28 N.G. 105	B. 2935	B. 39250	B. 35197	B. 37254
28. N.G. 219	35247	32 M.Q. 629	37226	37256
28 N.G. 251	39274	S.C. 12/4	38272	39246
B. 35269	40124	Kavangire	39254	40123
44226	41276		40122	4459
	4454		41242	44132
	44130		44131	44236
	44227		48351	B.H. 10/12
	4864		48357	Ba. 11569
	49282		32 M.Q. 579	Q. 813
	32 M.Q. 657		Oshima	28 N.G. 7
	Badilla		Uba	Burma
				Dacca
				Kloet
				Local Co.
				Pasoeroan
				Raiatea
				Tabongo